World's Smallest Camcorder

CamBall

SG-30/SG-31

User Manual

STARNEX

"The Future of Wireless Surveillance"

REV 00 – 20090709

Notice

[Legal Disclaimer]

- Use of this product for illicit purposes, including invasion of personal privacy, is punishable by law and Starnex disclaims any and all responsibilities resulting thereof.

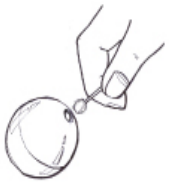
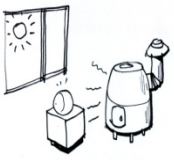
[EMC Registration]

- This device is a B grade EMC-registered device that's safe for residential use in all regions.

Safety Precautions

[Handling]

- CamBall is a precision hardware that is vulnerable to excessive impact. Please study and comply with the safety precautions below.
- Your warranty does not cover any damage resulting from mishandling or negligence by the user.

	Using excessive force to clean the lens surface can damage the lens itself or cause CamBall to malfunction. Dust and buildup on the lens can cause poor recording quality. Use a dust remover or lens cleaning cloth to clean the lens.
	Do not drop your CamBall or subject it to strong impact. Remember that CamBall can easily fall out of your pocket and on to the ground.
	When carrying CamBall in a bag, make sure the device is not vulnerable to excessive force and impact.
	Keep CamBall and its parts and accessories away from reach of children. If swallowed, immediately seek medical attention.
	Leaving your CamBall under direct sunlight or in the vicinity of a fireplace and other sources of heat can cause it to malfunction.
	Protect your CamBall from fluids and moisture.

	Do not attempt to disassemble or repair the device yourself. If you experience a problem with the product, contact a Starnex retailer or an authorized service center for repair.
	Do not use your CamBall near bodies of water without the waterproof case or allow it to get wet. Moisture and water cause malfunctions and can even lead to electrocution. If you need to use your CamBall outdoors in rain/snow or at a beach/swimming pool, please use the waterproof case.

[Copyright]

- Unauthorized reproduction and distribution of copyrighted material is direct violation of copyright laws and international treaties. Furthermore, distribution of unauthorized content to third parties via Internet is also violation of international treaties, regardless of whether or not the distribution is free or paid.

[Important Notice]

- The content of this manual is subject to change without prior notice.
- Starnex shall not be held responsible for disputes or issues resulting from the use of this manual.
- Starnex shall not be held responsible for third party disputes or issues concerning CamBall use.
- Starnex shall not be held responsible for any loss or damage incurred due to product malfunction or data loss. Please keep a backup of all your important data.
- Examples used in this manual may differ from actual product recordings and images.
- Buttons and functionalities not described herein exist for future product improvement purposes.
- Starnex reserves the right to make design and/or functional changes to the product for performance improvement purposes without prior notice.

Table of Content

1. Product Overview 5
1.1 Standard Pack of CamBall(SG30/31) 5
1.2 Optional Accessories 6
1.2.1 Surveillance Pack (SG-SVP) 6
1.2.2 Vehicle Pack (SG-VHP) 6
1.2.3 Sport Pack (SG-SPP) 6
1.2.4 LCD Monitor Pack (SG-LMP) 7
1.3 Feature Comparison 7
1.4 Front 8
1.5 Rear 8

2. Connecting Your CamBall 9
2.1 Charging the Battery 9
2.2 Inserting a Micro SD Card 9
2.3 Connecting to an External Display Device 9
2.4 Earphone Connection 10
2.5 Using Accssories 10

3. Basic Operation 12
3.1 Preparations 12
3.2 Basic Operation and Status Check 12
3.3 Indication Lamps 13

4. CamBall Operation by Mode 14
4.1 Taking Snapshots (Standby Mode) 14
4.1.1 Snapshots without an External Display Device 14
4.1.2 Snapshots utilizing an External Display Device 16
4.1.3 Viewing and Editing Photos 16
4.2 Recording Video (Recording Mode) 19
4.2.1 Recording without an External Display Device 19
4.2.2 Recording utilizing an External Display Device 19
4.2.3 Video Playback and Edit 20
4.3 Special Video Recording Types with CamBall SG-31 24
4.3.1 Selection of Recording Type 24
4.3.2 Instructions by Recording Type 24
4.3.3 Motion Detection Recording in Detail (SG31 Only) 27
4.4 MP3 Mode 28
4.4.1 Enabling/Disabling MP3 Mode 28
4.4.2 Editing MP3 Files 29

5. Initial Configurations 31
5.1 Overview 31
5.1.1 What are Initial Configurations? 31
5.1.2 What is Upgrading? 31
5.1.3 What are Basic Configurations? 31
5.1.4 Initial Configuration Guide 31
5.2 Upgrading 31
5.2.1 CamBall Manager 31
5.2.2 CamBall Firmware 32
5.3 Basic Configurations 33
5.3.1 CamBall Manager Configurations 33
5.3.2 Language Selection 33
5.3.3 Monitor Type Selection 33
5.3.4 Date/Time Settings 34

6. CamBall Configurations 36
6.1 Configurations using an External Display Device 36
6.1.1 Language 36
6.1.2 Camera Settings 36
6.1.3 Recording Settings 38
6.1.4 Playback Settings 40
6.1.5 Date/Time 41
6.1.6 Memory Settings 41
6.1.7 Other 42
6.2 From CamBall Manager 45
6.2.1 Language 45
6.2.2 Camera Settings 45
6.2.3 Recording Settings 46
6.2.4 Playback Settings 49
6.2.5 Date/Time 49
6.2.6 Memory Setting 49
6.2.7 Other 50

7. Video Playback using CamBall (PMP). 53

8. YouTube 54
8.1 Upload 54
8.2 Multiple Uploads 54

9. Reference Information 55
9.1 Default Settings 55
9.2 Product Specifications 56

10. Tips on Use 57
10.1 Safe Hardware Removal 57
10.2 Using CamBall in a Vehicle 57

1. Product Overview

1.1 Standard Pack of CamBall(SG30/31)

- CamBall is a miniature electronic device and therefore needs to be unboxed with care.
- Check to make sure all of the following items are included in the standard package of CamBall. Contact your retailer if any of these items are missing.
- Application

  Generation of User Contents, Conference Recording, Vehicle Drive Recording, Travel Recording, Class Recording, Baby Diary Recording, **Hands-Free Recording of Outdoor Activities** (Bicycle Riding, Motorcycling, Hang Gliding, Skate Boarding, Scuba Diving, Wind Surfing, Water Surfing, Water skiing, Snorkeling, Mountain Climbing, Remote-Controlling of Model Plane/Car)

CamBall
(SG-30/31)

CamBall Holder
(SG-93)

Neck Strap
(SG-71)

Sport Band
(SG-70)

USB Cable
(SG-99)

Earphones
(SG-82)

Earphone Gender
(SG-83)

CD-ROM

Quick Start Guide

USB Adapter Gender
(SG-73)

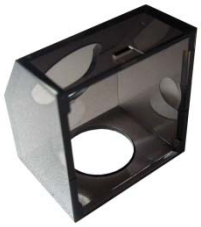
Micro SD Card
(2GB)

1.2 Optional Accessories

1.2.1 Surveillance Pack (SG-SVP)

- When you use CamBall for the surveillance of home, office or small business, this pack(SG-SVP) will be helpful in supplying CamBall with continuous electric power and placing it where you want to.

USB Adapter
(SG-95x)



Box Mount
(SG-97)

USB Extension
Cable
(SG-74)

1.2.2 Vehicle Pack (SG-VHP)

- When you use CamBall for vehicle drive recording (like kind of a vehicle black box) or vehicle security, this pack(SG-VHP) will enable you to continuously supply CamBall with the electric power from vehicle battery and help you in mounting it easily on the dashboard.

Car Adapter
(SG-87)

Car Adapter Cable
(SG-88)

Car Mount
(SG-80)

1.2.3 Sport Pack (SG-SPP)

- With the help of this pack(SG-SPP), your CamBall will record how you enjoy bicycle riding, motorcycling, or any kinds of water sports. Waterproof Case(SG-91) stands 40M(136ft) water pressure.

Handle Mount
(SG-84)

Waterproof Case
(SG-91)

1.2.4 LCD Monitor Pack (SG-LMP)

- With CamBall LCD Monitor, you can view CamBall's field of frame when you take a snapshot or record a moving picture, and it is also used for playing back and editing of them.
- You can use it as an external monitor screen when you change the configuration of your CamBall and also as an external battery(3.7V-700Ma) for supplying electric power for your CamBall.

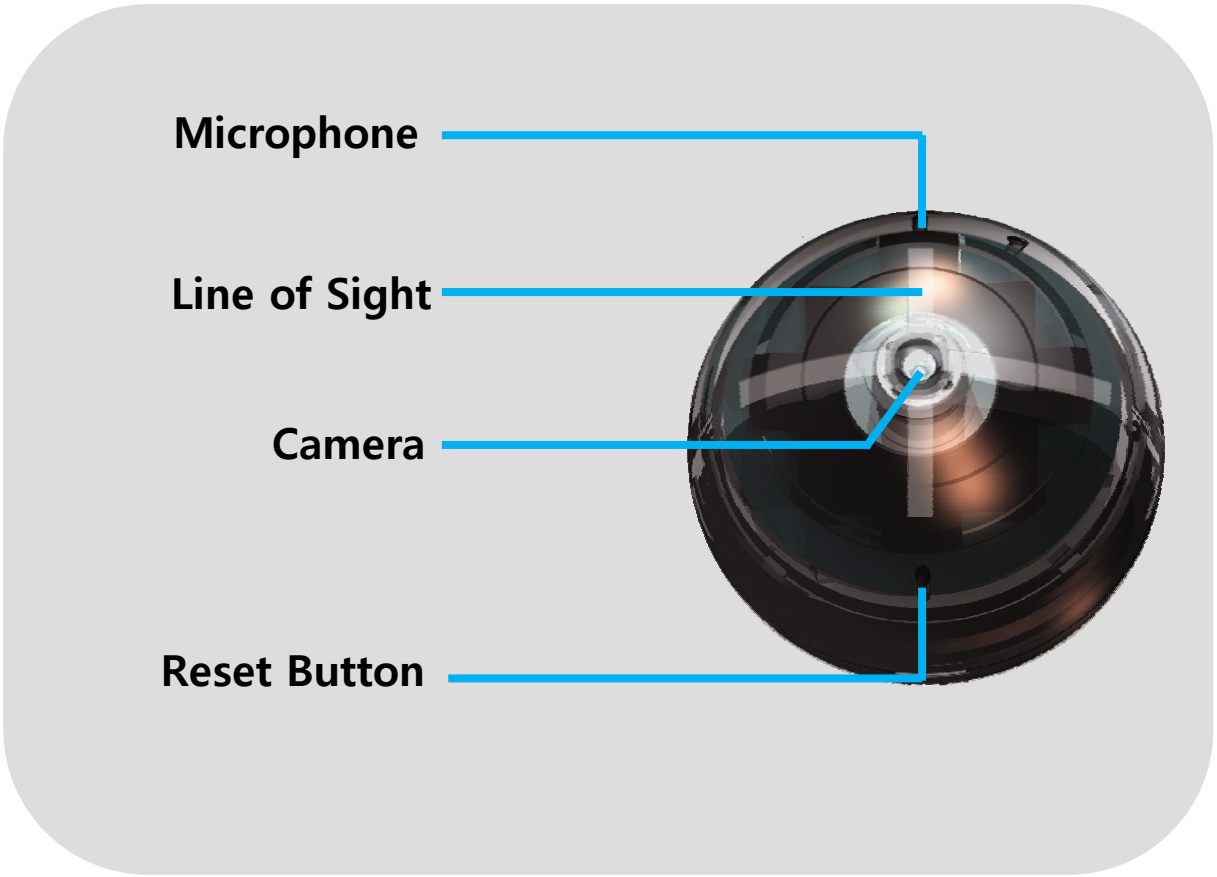
LCD Monitor
(SG-94)

CamBall/LCD
Connection Cable
(SG-72)

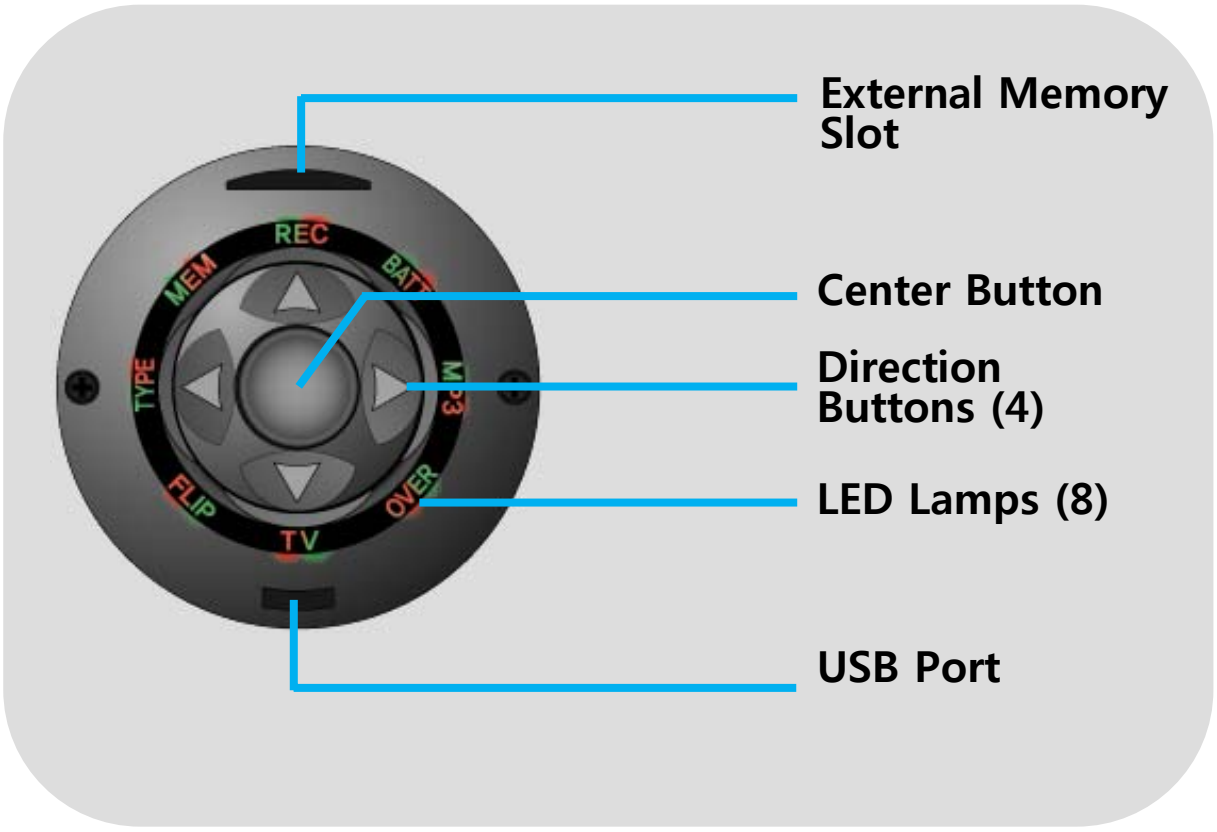
1.3 Feature Comparison

Feature / Model		SG-30	SG-31	Note
Video Recording		√	√	
Audio Recording		√	√	
Monitor Display		√	√	
Snapshot		√	√	
USB		√	√	
MP3		√	√	
Motion Detection	Surveillance Recording		√	
	Vehicle Recording		√	
	Angel Recording		√	

1.4 Front



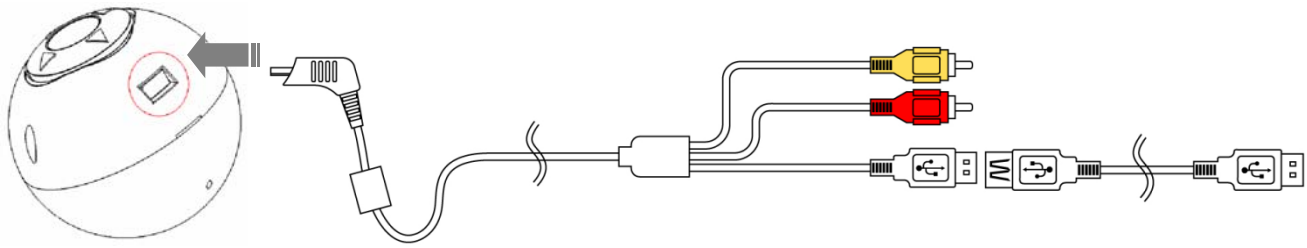
1.5 Rear



2. Connecting Your CamBall

2.1 Charging the Battery

- Connecting your CamBall to a computer (USB port) using the USB cable(SG-99) will activate CamBall's REC, MP3, TV, and TYPE lamps in a cross shape and automatically start charging the device's battery. It takes approximately 2 hours and 30 minutes to completely charge the battery.
- Once CamBall is connected to a computer via the USB cable, CamBall will start charging but will not be able to record video. To record while charging the battery, use the USB Adapter Gender (SG-73).
- It's also possible to charge the battery and record at the same time by using the USB Adaptor(SG-95) in the Surveillance Pack (SG-SVP, sold separately).

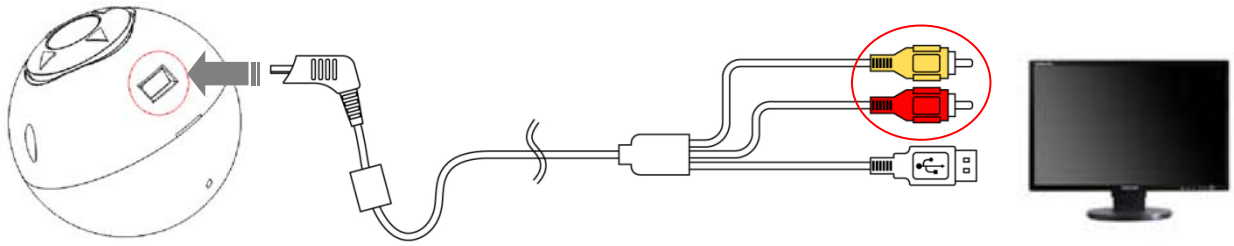


2.2 Inserting a Micro SD Card

- CamBall supports Micro SD cards (up to 16GB).
- Insert the Micro SD card completely into the external memory slot (see picture on the left – not completely inserted).
- Push the card in until it's flush with the slot.(Please refer to *6.1.6 Memory Settings)*.

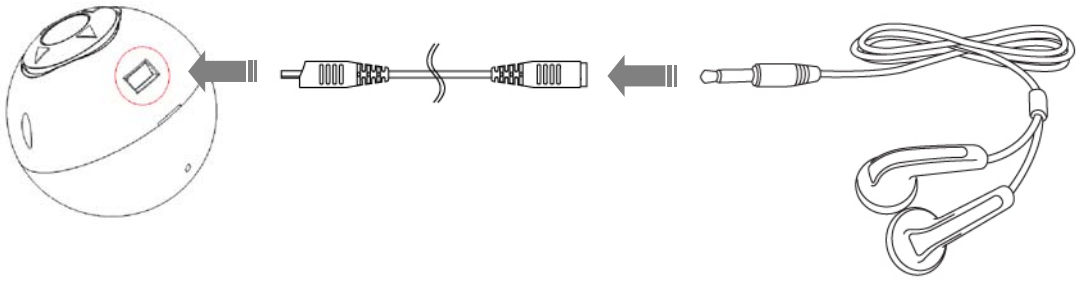
2.3 Connecting to an External Display Device

- You can display the recorded videos on a TV monitor, a PC monitor, a satellite navigation screen or CamBall LCD monitor(SG94) by connecting CamBall directly to one of those.
- You can also monitor what is being recorded through TV monitor LCD Monitor(SG94) or a satellite navigation screen if you connect one of them to CamBall while you record video.



2.4 Earphone Connection

- When the MP3 mode enabled, connect the earphones to CamBall's USB port using the earphone gender(SG-83), as shown below:



2.5 Using Accssories

- CamBall Holder: Push CamBall in until you hear a click.
  CamBall Holder allows you to fixate CamBall's camera angle and position.
  It also allows you to mount CamBall on the table or even on the wall using double-side adhesive tape.

- Necklace: Necklace connects to both sides of CamBall Holder and the length can be adjusted to the chest level, which reduces shaking and wobbling.

- Sport Band: Rubber lining inside the band prevents the band from slipping off helmets and other objects with smooth surfaces.

- Sport Band + CamBall Holder:

3. Basic Operation

3.1 Preparations

- Plug CamBall into USB port of your computer using USB Cable(SG99) or into the wall socket using USB Cable(SG99) and USB Adapter(SG95), and leave it for at least two and half hours to fully charge CamBall's battery
- Insert the external memory card (Micro SD) into the external memory slot. (Refer to 6.1.6 Memory Settings of this manual)

= Refer to *5. Initial Configurations* of this manual and before start, change the configurations.

3.2 Basic Operation and Status Check

- **CamBall Buttons**

	The external memory slot is positioned at the top and the USB port at the bottom of CamBall.

- **Powering On/Off**

	Press and hold the **Center** button over two seconds to power CamBall on. All the indication lamps will blink three times as the CamBall powers up. Press and hold the **Center** button over two seconds to power CamBall off. The indication lamps will blink in rotation three times as the CamBall powers down.

- **Status Check**

	When you power on CamBall, it is operating normally if three indication lamps (BATT, MEM, and OVER) turn on. These indication lamps indicate CamBall's status (battery reserve, memory status, and overwrite setting). Note that CamBall can be configured so that these lamps automatically turn off in five seconds (pressing the [▼] button under this configuration displays CamBall status for five seconds).

- **Lock**

	All buttons can be locked by pressing and holding the [◀] and [▶] buttons simultaneously for two seconds. All the indication lamps will blink once before they are locked. Unlock the in the same manner. The indication lamps blink twice before they are unlocked. Pressing any of the buttons while they are locked will cause all lamps blinking in Red+Green once but no operation of CamBall at all.

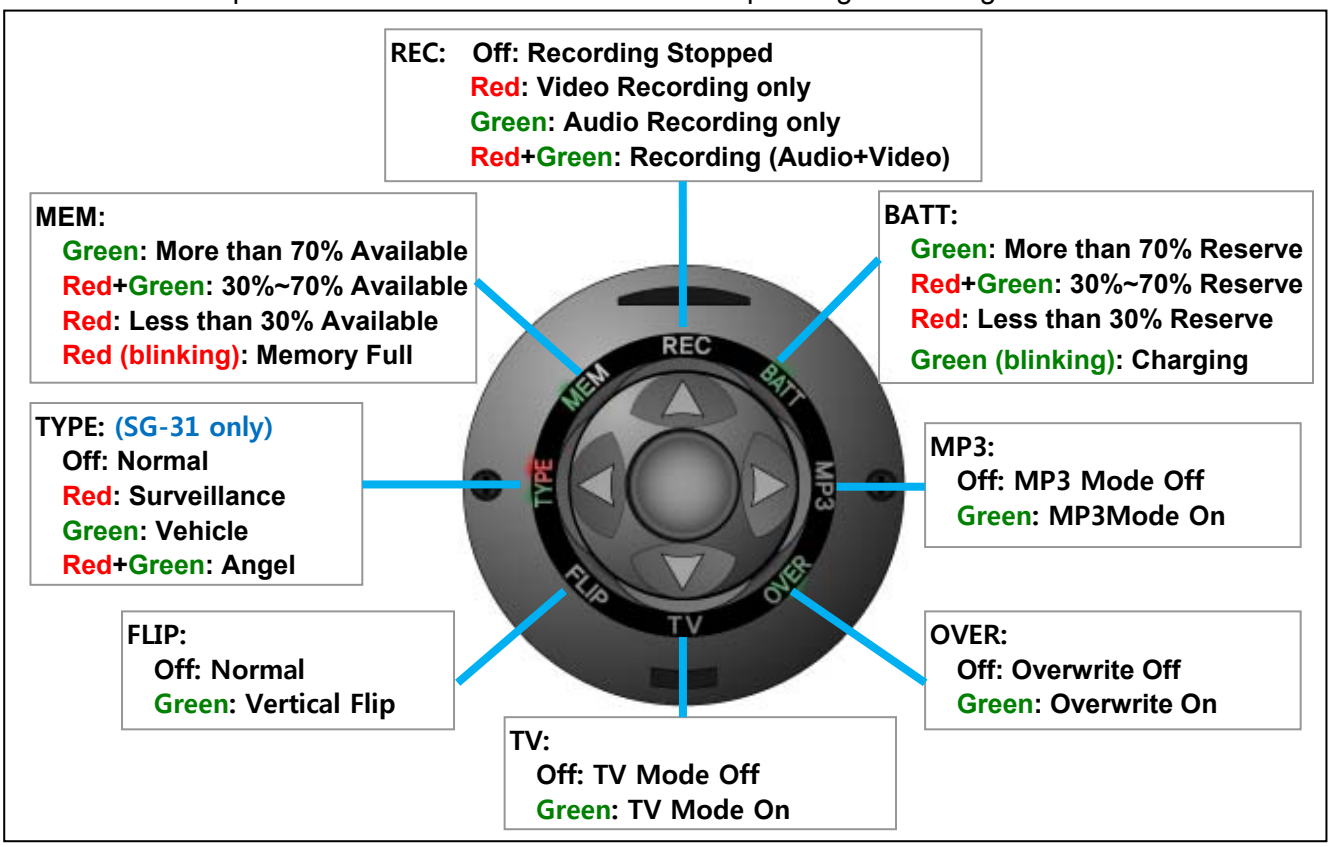
- **Reset**

The **Reset** button is located deep inside CamBall and can be accessed using a clip or another sharp, long object. Reset if CamBall is malfunctioning and/or cannot be powered off.

Pressing the **Reset** button powers down CamBall. To restart it, press and hold the **Center** button.

3.3 Indication Lamps

- Indication lamps and their colors indicate CamBall's operating and configuration status.



Note **Overwrite** (selectable from CamBall Manager or in TV mode)
[On]: When the memory is full , CamBall starts to overwrite on the oldest existing file.
[Off]: When the memory is full, CamBall stops recording automatically (If Memory Full Indication option is enabled, the MEM indication lamp blinks in red five times). In order to continue recording, the recorded flies need to be erased (You can save the recorded files on a separate storage, if necessary).

4. CamBall Operation by Mode

Indication lamps change colors depending on the selected modes.

(1) Standby Mode (REC, MP3, and TV Indication Lamps: Off): Standby or taking snapshot.
(2) Recording Mode (REC Indication Lamp: Red + Green): Recording video.
(3) MP3 Mode (MP3 Indication Lamp: Green): Playing MP3.
(4) TV Mode (TV Indication Lamp: Green): Recording/Playing/Setting with connection of monitor.

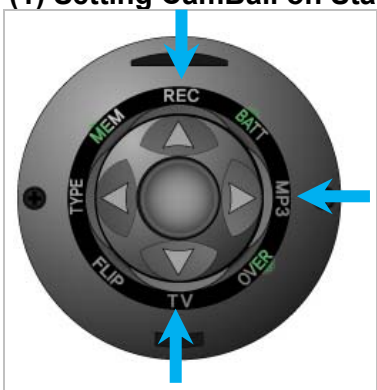
4.1 Taking Snapshots (Standby Mode)

- With CamBall, you can take snapshots. You can utilize an external display device like TV monitor or CamBall LCD monitor(SG94).

> **Note Before taking Snapshots…**
> Read carefully ***5. Initial Configurations*** and ***6. CamBall Configurations*** of this manual and configure the date/time, monitor, and memory settings before taking snapshots.

4.1.1 Snapshots without an External Display Device

(1) Setting CamBall on Standby Mode



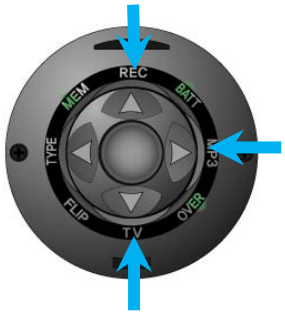
- Press and hold the Center button to power CamBall on. If all the indication lamps of REC, MP3, and TV are off, CamBall is in standby mode.
- If any of the three indication lamps are on(CamBall is not in the standby mode), turn them off by pressing and holding the related direction buttons over 2 seconds.

(2) Taking Snapshots

- When CamBall is in the Standby Mode, press the Center button to take a snapshot . Each press of the Center Button will take a single snapshot. All the indication lamps on CamBall will blink in rotation when every snapshot is taken.

Note **Standby Mode**

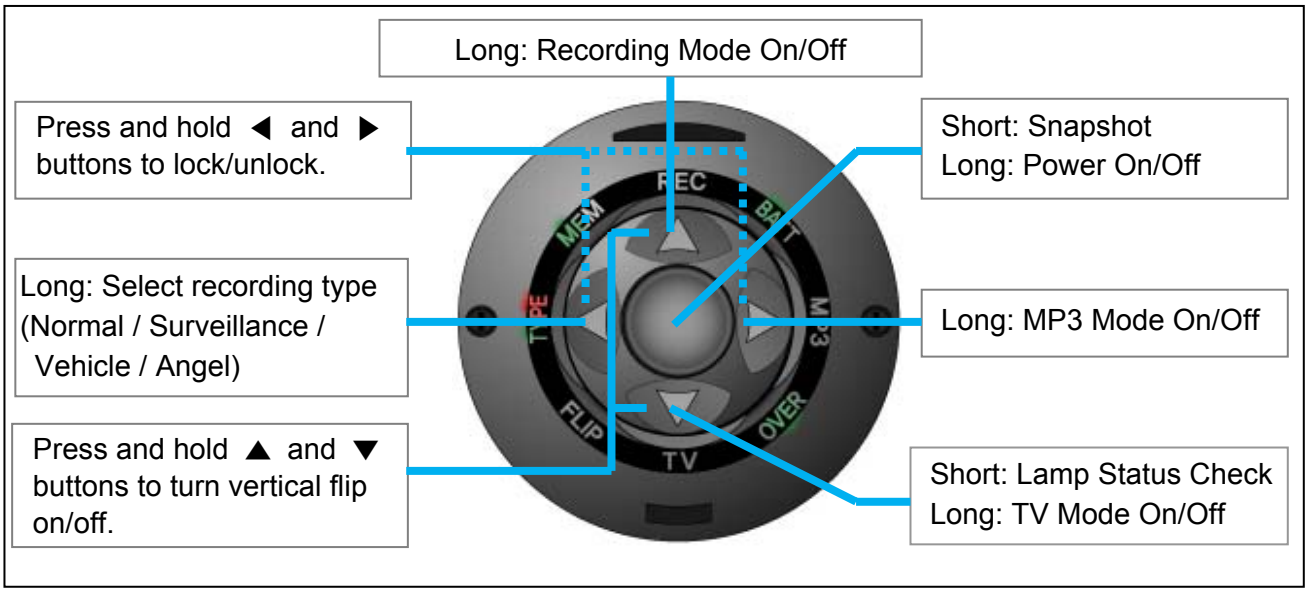
(1) Overview



- Standby mode is when REC, MP3, and TV indication lamps are all off.
- From the Standby mode, you can change modes into the Recording mode, the MP3 mode, or the TV mode and even change the recording type.
- By pressing the Center button while in the standby mode you can take snapshots.

(2) Standby Mode Buttons

- Standby mode is when REC, MP3, and TV indication lamps are all off.



- The following button functions are available in the Standby mode:
  1. **Center**: Press to take single snapshots.
  2. ▲: Press and hold over 2 seconds to set CamBall on/off Recording mode.
  3. ◀: Press and hold over 2 seconds to change the recording types (Normal, Surveillance, Vehicle, and Angel).
  4. ▶: Press and hold over 2 seconds to set CamBall on/off MP3 mode.
  5. ▼: Press to check the status of CamBall features (if “Lamp Indication Time” configured to five seconds in setting menu.).
  6. ▼: Press and hold over 2 seconds to set CamBall on/off TV mode.
  7. ▲+▼: Simultaneously press and hold over 2 seconds to activate/deactivate the vertical flip feature (FLIP lamp on/off).
  8. ◀+▶: Simultaneously press and hold over 2 seconds to lock/unlock all the indication buttons.

4.1.2 Snapshots utilizing an External Display Device

- It's possible to connect your CamBall to a TV monitor a CamBall LCD monitor (SG-LMP, sold separately) and take pictures while viewing CamBall's field of vision on the screen. (computer may not be used as external display devices).

① Connect CamBall to an external display device using the USB cable. Please note that the video plug is yellow and the audio plug red.

② Make sure CamBall is in standby mode (**Refer to 4.1.1 Setting CamBall on Standby Mode**).

③ From standby mode, press and hold the [▼] button for over 2 seconds to turn on. The TV indication lamp green , which means CamBall mode has been changed to TV mode with the display of the following four menu options on the external display device:

④ Select Preview/Snapshot and then press the Center button to view CamBall's field of vision on the screen of the external display device.

⑤ Press the Center button to take a picture. A status message will appear on screen as CamBall takes the picture. To return to the previous menu, press the [◀] button.

Note Taking Pictures when Memory is Full
You will not be able to take additional pictures any more when the memory is full.CamBall reaches full memory capacity and if you have the overwrite feature turned off. If you try to taking picture, the MEM indication lamp will blink in red five times when you attempt to take a snapshot, indicating that there is not enough storage space available and that you need to delete some files to free up space.

4.1.3 Viewing and Editing Photos

- Snapshots can be viewed and edited either by connecting CamBall to a computer or an external display device.

4.1.3.1. Viewing and Editing Photos on a computer

① Connect CamBall to your compuer using the USB cable.

② CamBall's REC, MP3, TV, and TYPE indication lamps will turn on in a cross shape, which means your PC has recognized CamBall.

③ Click the icon of My Computer on your PC to find the two new disk drives generated by CamBall. The new disk drive from, CamBall's built-in memory is generally named "CamBall" and that from the Micro SD Card "CamBall_SD" or "Removable Disk Drive", depending on the computer's configuration.

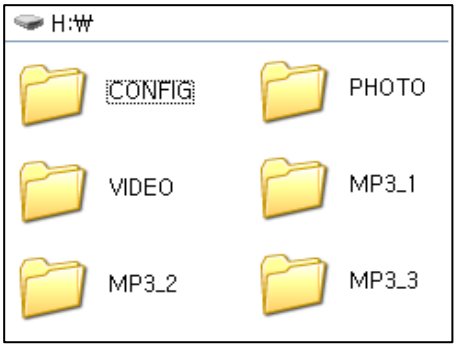
④ The new disk drive from built-in memory is differentiated from that from the external memory in

that it contains a CONFIG folder, as shown below.

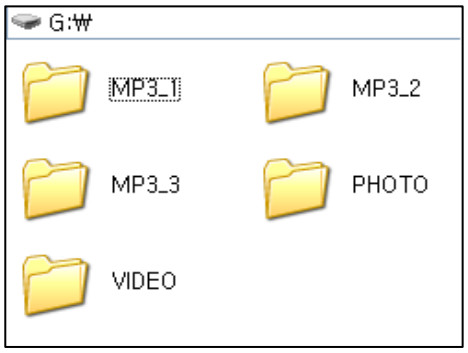
⑤ Snapshot files are saved in the PHOTO folders in both disk drives

⑥ Open the PHOTO folder and select photo files to view or edit the pictures using StarEncoder (included in the CD-ROM).

Built-in Memory



External Memory



Note **Disk Naming of Micro SD card**
Formatting the Micro SD card from CamBall renames the disk name on the PC to 'CamBall_SD'. Otherwise, the disk name will display as 'Removable Disk Drive'.

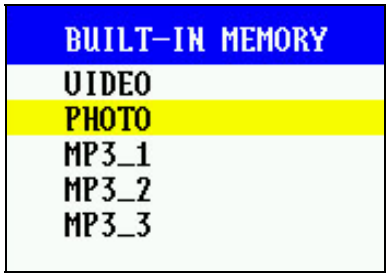
4.1.3.2. Viewing and Editing Photos ~~from~~ on an External Display Device (TV or CamBall LCD)

(1) Viewing Photos

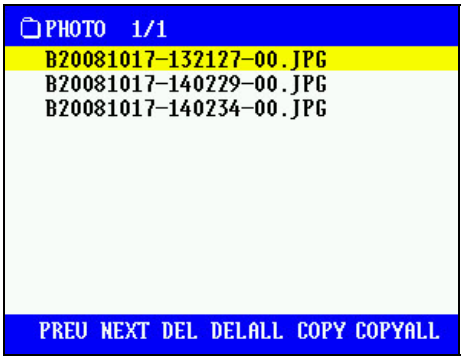
① Set CamBall on TV mode and connect it to an external display device (refer to section 4.1.2.). Then place the curser on Playback/Edit in the menu and then press the Center button.

② Select Built-in Memory or Micro SD Card and press the **Center** button.

③ Place the curser on Photo and press the **Center** button.



④ Place the curser on the file you wish to view and press the **Center** button.



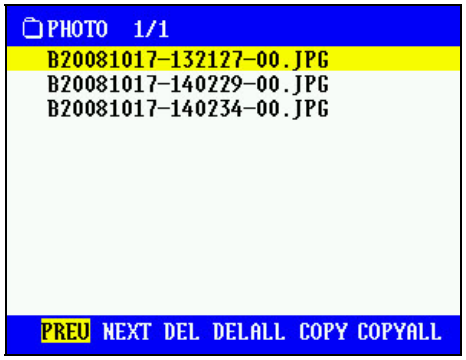
⑤ While a photo is being displayed, press the [◀] button to view the previous file and the [▶] button to view the next file.

⑥ To end photo viewing and return to the file selection menu, press and hold over two seconds the [◀] button.

⑦ To return to the previous menu, press the [◀] button.

(2) Editing of Photos

① From the file selection menu, press the [▶] button to access the edit options at the bottom of the menu.



② Place the cusor on the desired edit option and press the **Center** button to edit.

- **Previous/Next**: Opens the previous/next page (if there are multiple pages of files).
- **Delete/Delete All**: Delete selected file or files.
- **Copy/Copy All**: Copy selected file or files from the built-in memory to the external memory or vice versa.

③ After you've finished editing, press the [▲] button to exit the edit menu. To return to the previous menu, press the [◀] button.

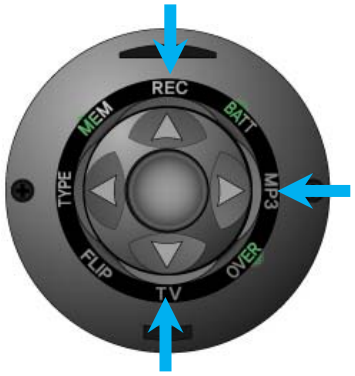
4.2 Recording Video (Recording Mode)

- With CamBall, you can record video and audio. You can also utilize an external display device like TV monitor or CamBall LCD monitor(SG94) when you record with CamBall.

> **Note Before recording Video…**
> Carefully read ***5. Initial Configurations*** and ***6. CamBall Configurations*** of this manual and configure the date/time, monitor, and memory settings before recording video and audio.

4.2.1 Recording without an External Display Device

(1) Setting CamBall on Standby Mode



- Press and hold the Center button to power CamBall on. If all the indication lamps of REC, MP3, and TV are off, CamBall is in standby mode.
- If any of the three indication lamps are on(CamBall is not in standby mode), turn them off by pressing and holding the related direction buttons over 2 seconds.

(2) Start Recording

- When CamBall is in standby mode, press and hold the [▲] button over 2 seconds. This turns on the REC indication lamp and gets CamBall to start recording. If the REC indication lamp is turned on in both green and red, this indicates that both video and audio are being recorded. To record video or audio only, you have to change the configurations (Refer to section ***6. CamBall Configurations***.)

(3) End Recording

- To stop recording, press and hold the [▲] button over 2 seconds. The REC indication lamp will turn off and CamBall will stop recording.

4.2.2 Recording utilizing an External Display Device

- It is possible to connect your CamBall to a TV monitor or CamBall LCD monitor(SG-LMP, sold separately) and record video while viewing CamBall's field of vision on the screen. (computer may not be used as external display devices).

① Connect CamBall to an external display device using the USB cable. Please note that the video plug is yellow and the audio plug red.

② Make sure CamBall is in standby mode (**Refer to 4.1.1 Setting CamBall on Standby Mode**).

③ From standby mode, press and hold the [▼] button for over 2 seconds to turn on. The TV indication lamp green, which means CamBall mode has been changed to TV mode with the display of the following four menu options on the external display device:

④ From the menu displayed on screen, select Record and then press the Center button. This turns on the REC indication lamp, and CamBall starts displaying its field of vision on the screen, and commences to record video.

⑥ Press the [◀] button or press and hold the [▲] button over 2 seconds to stop recording.

Note Recording Video when Memory is Full

You will not be able to record additional footage when CamBall reaches full memory capacity and if you have the overwrite feature turned off. If you try to record video, the MEM indication lamp will blink in red five times to indicate that there's not enough storage space available and that you need to delete some files to free up space.

4.2.3 Video Playback and Edit

4.2.3.1. Playback and Edit on a PC

① Refer to section 4.1.3.1 for connecting CamBall to your computer.

② Recored video files are saved in the VIDEO folders.

③ Open the VIDEO folder and select video files to playback or edit.

Note To Playback Video on a PC

- Video files created by CamBall can be played back from Windows Media Player, DivX Player and other media player. However, the MPEG4 codec must be installed on the PC.
- StarEncoder (included in the CD-ROM) makes it unnecessary to install additional codecs on to your system in order to view CamBall video files. With StarEncoder you can convert non-CamBall format video files into those viewable on a PC with CamBall and vice versa.
- Starnex's web site(www.starnexinternational.com) provides free download of the latest version of StarEncoder.
- If you are unable to playback video using Windows Media Player or DivX Player, use StarEncoder.

Note Connecting CamBall to a PC while Recording and Playing Back Recorded Files

- If you connect CamBall to a PC while recording is in progress, CamBall stops recording. The recorded files can then be played back or edited on the PC. Disconnecting CamBall from the PC resumes the recording.

Note **Size of Recorded File and Disk Drive Naming of Micro SD card on a PC**

- CamBall generates and saves recorded files in the built-in storage in 1 hour long or 20MB sized segment units, whichever comes first. For the external storage CamBall generates and saves recorded files in 1 hour long or 300MB sized segment units.
- Formatting the Micro SD card from CamBall renames the disk drive into 'CamBall_SD'. Otherwise, the external storage disk drive will be displayed as "Removable Disk Drive".

Note **Names and Extensions of Recorded Files**

- Recorded files are named in the format of YYYY/MM/DD-HH/MM/SS-Recording Sequence. Here, the time refers to the point when the recording started. In addition, file names carry either a B or an M prefix. B is for files recorded to built-in memory, whereas M is for files recorded to external memory (Micro SD).
- **B20090430-141523-00.avi** :
  A file that was recorded to built-in memory starting at 14:15:23 on April 30, 2009.
- **M20090530-141523-00.avi** :
  A file that was recorded to external memory starting at 14:15:23 on May 30, 2009.
- File Extensions
  avi: Video+Audio
  wma: Audio
  jpg: Image

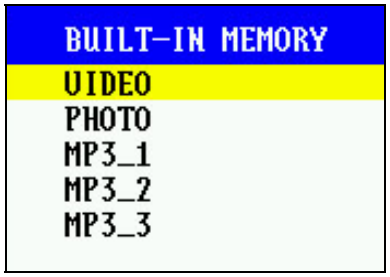
4.2.3.2. Playback and Edit of Video Files on an External Display Device (TV or CamBall LCD)

(1) Video Playback

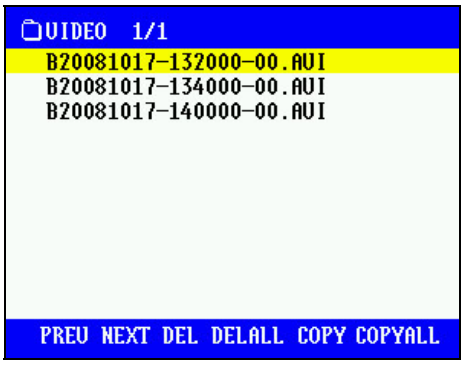
① Set CamBall on TV mode and, connect it to an external display device (refer to section 4.1.2.). Then place the curser on Playback/Edit in the menu and then press the Center button.

② Select Built-in Memory or Micro SD Card and press the **Center** button.

③ Place the curser on Video and then press the Center button.



④ Place the curser on the file you wish to view and press the **Center** button to view the file.



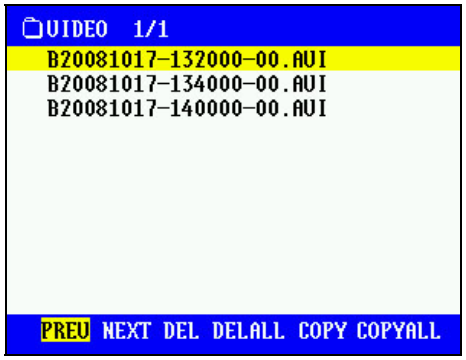
⑤ While a video file is being played, press the [◀] button to play the previous file and the [▶] button to play the next file.

⑥ To end video playback and return to the file selection menu, press and hold the [◀] button.

⑦ To return to the previous menu, press the [◀] button.

(2) Editing of Videos

① From the file selection menu, press the [▶] button to move the cursor at the bottom of the menu. Then you can access the edit options.

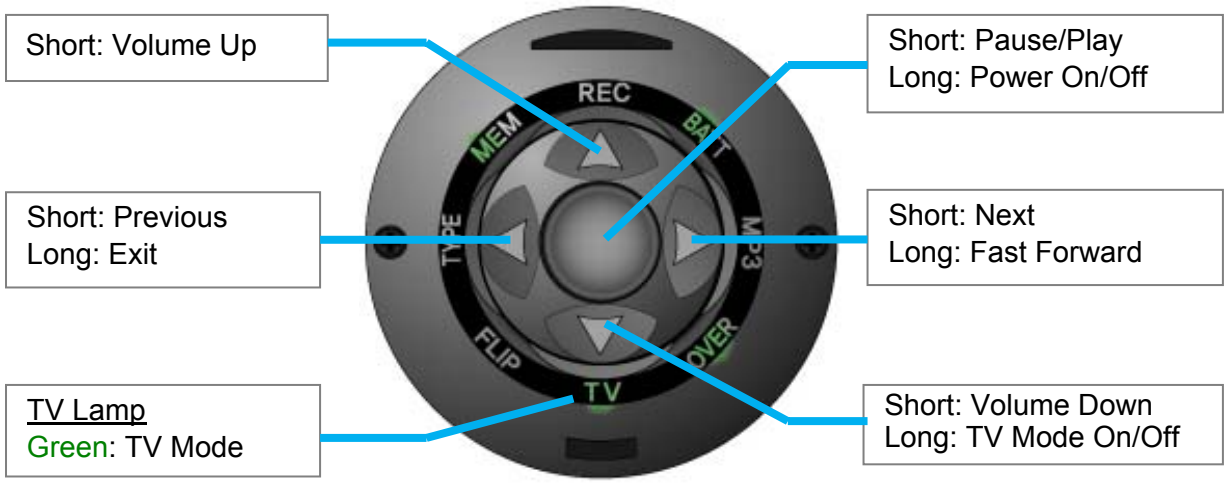


② Place the curser on the edit option you have chosen.

- **Previous/Next**: Opens the previous/next page (if there are multiple pages of files).
- **Delete/Delete All**: Delete selected file or files.
- **Copy/Copy All**: Copy selected file or files from the built-in memory to the external memory or vice versa.

③ When finished, press the [▲] button to exit from the edit options. To return to the previous menu, press the [◀] button.

Playback/Edit Buttons



4.3 Special Video Recording Types with CamBall SG-31

- **These types do not apply to CamBall SG-30.**
- On top of normal video recording, CamBall SG-31 supports the Types of Surveillance Recording, Vehicle Recording, and Angel Recording.

4.3.1 Selection of Recording Type

- Recording type can be selected and changed when CamBall is in Standby Mode.
- Change the recording type by pressing and holding over 2 seconds the [◀] button related to the TYPE indication lamp. With each press, the recording type will change in order of Normal Recording(Lamp Off)> Surveillance Recording(Red)> Vehicle Recording(Green)>Angel Recording (Red+Green).

Four Recording Types of CamBall

<table>
<tr><th></th><th>Normal Recording (SG30&SG31)</th><th>Surveillance Recording (SG31)</th><th colspan="2">Vehicle Recording (SG31)</th><th>Angel Recording (SG31)</th></tr>
<tr><td>TYPE Lamp</td><td>Off</td><td>Red</td><td colspan="2">Green</td><td>Red + Green</td></tr>
<tr><td rowspan="2">Recording Type</td><td rowspan="2">Continuous</td><td rowspan="2">Motion Detection</td><td>When ignition is turned on.</td><td>Continuous</td><td rowspan="2">Time-controlled repetition of recording and standby, regardless of motion</td></tr>
<tr><td>When ignition is turned off</td><td>Motion Detection</td></tr>
<tr><td>Application Examples</td><td>Sport Camcorder (Hands free)</td><td>Motion Activated Surveillance Device</td><td colspan="2">Vehicle Black Box and Vehicle Security</td><td>Children Monitoring and Extended Duration Recording</td></tr>
</table>

4.3.2 Instructions by Recording Type

> **Note Before performing special recordings with CamBall SG-31…**
> Carefully read ***5. Initial Configurations*** and ***6. CamBall Configurations*** of this manual and configure the date/time, monitor, and memory settings before performing special recordings. In particular, Surveillance Recording and Vehicle Recording both rely on motion detection, (Refer to section 6.1.3.9. or 6.2.3.9.)

(1) Normal Recording (TYPE Lamp: Off) – SG30 and SG31

- Overview: Use this option for normal video recording, like using your CamBall as a camcorder..
- Recording: When your CamBall is in Standby Mode (make sure TYPE lamp turned off), press and hold the [▲] button over 2 seconds to start recording. If powered by the onboard battery only, normal recording will continue until the battery is completely used up. If

powered by USB Cable(SG99)/USB Adapter Gender(SG73) or the USB Adapter(SG95), recording will continue until manually stopped.

- Charging: No matter the level of remaining battery reserve, CamBall will charge the battery if plugged into a power source.

(2) Surveillance Recording (TYPE Lamp: Red) – **SG31 Only**

- Overview: Select this recording type to use your CamBall as a surveillance recording device. With this recording type enabled and with CamBall connected to a power source via the USB Adapter, CamBall automatically resumes recording when power is restored after an interruption (The automatic resumption is not applicable in Normal Recording).
- Recording: Press and hold the [◀] button over 2 seconds from Standby Mode to select the Surveillance Recording (TYPE Lamp Red) and then press and hold the [▲] button over 2 seconds. This will turn on the REC lamp and start Surveillance Recording.
- Charging: No matter the level of remaining battery reserve, CamBall will immediately start charging the battery when plugged into a power source.

(3) Vehicle Recording (TYPE Indication Lamp: Green) – **SG31 Only**

- Overview: Select this recording type to use CamBall as a vehicle security device.
- Recording: From Standby Mode, press and hold the [◀] button over 2 seconds to select Vehicle Recording (TYPE Lamp: Green).
- Connect CamBall to Car Mount(SG80), Car Adapter(SG87), and Car Adapter Cable(SG88) (sold separately).
- Ignite the engine and CamBall will automatically start Vehicle Recording You don't need to press the [▲] button. (Some models of vehicle may not power CamBall by ignition of the engine. After ignition of the engine, always check to make sure CamBall is powered on). As CamBall will be continuously supplied with power as long as the engine is running, you can record continuously while you are driving, regardless of the driving time, only if OVERWRITE function activated(No worry about battery time memory capacity).
- When the vehicle's ignition switch is turned off, CamBall responds differently depending on Recording Duration After Engine Shutoff Settings (Refer to section **6.1.7.4.**).

Setting	CamBall's Response After Engine Shutoff
Power off Immediately	CamBall powers off immediately , suspending recording.
1-120mins	CamBall uses its internal battery power to perform motion detection recording for the specified duration (max. 120mins).
Continuous	CamBall continues ~~to~~ recording motion activated video until its internal battery power runs out.

- Charging: Charging CamBall's battery every time the engine is ignited may cause the battery life of CamBall to be shortened. In order to delay the shrink of the battery life, CamBall is programmed to start charging its battery only when the battery reserve falls below 70%.

Note **Configuring Recording Duration After Engine Shutoff**
Run CamBall Manager.exe file on your PC or set your CamBall on TV Mode with an external display device, and then click the menu, Settings>Other>Recording Duration After Engine Shutoff.

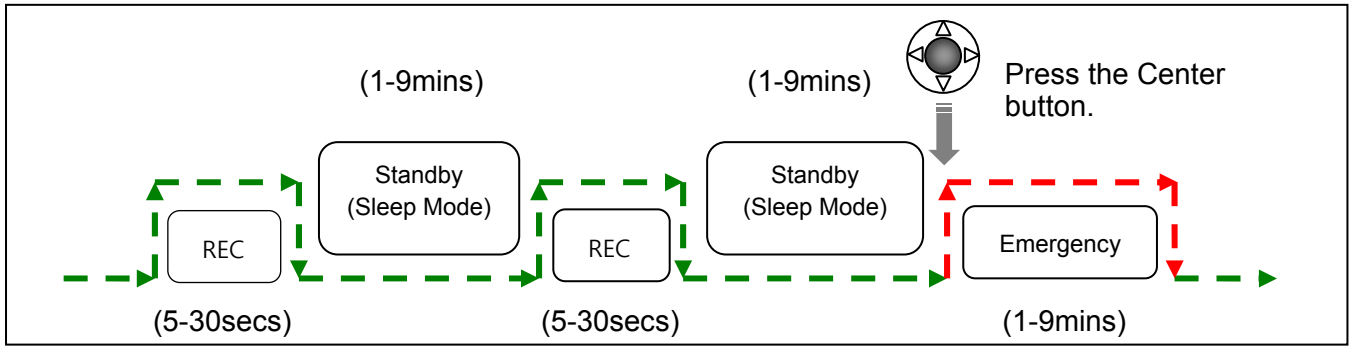
Note **Powering CamBall with the Center Button under Vehicle Recording Mode**
Powering CamBall when it is in Vehicle Recording mode does not require you to press and hold the Center button over 2 seconds. A simple short press of the Center button is sufficient.

(4) Angel Recording (TYPE Lamp: Red+Green) – **SG31 Only**

- CamBall being in Standby Mode, press and hold the [◀] button over 2 seconds to select Angel Recording (TYPE Lamp: Red + Green) and then press and hold the [▲] button over 2 seconds to start recording.
- In Angel Recording mode, CamBall repeats between user-defined recording (5~30secs) and standby (1~9mins). At emergencies, press the **Center** button to immediately record breaking up the standby (The duration time of emergency recording can be set beforehand among 1 to 9 minutes).

Note **Time Settings**
Run CamballManager3.exe file on your PC or set CamBall on TV Mode with an external display device and then click the menu, Settings>Others>Angel Recording Settings.

Angel Recording



- Charging: No matter the level of remaining battery reserve, CamBall will charge the battery if plugged into a power source.
- Stopping of Angel Recording: While CamBall is in the standby phase of Angel Recording, none of the buttons but the **Center** button is functional. Therefore, in order to stop Angel Recording, you will need to press the **Center** button to wake up your CamBall and then press and hold the [▲] button over 2 seconds. This sequence of actions, however, must be completed within one minute.

Note Resumption of Recording when Power Restored

Under surveillance or vehicle recording types or when recording in TV mode, restoring power back to CamBall after due to depletion of its internal power supply or manual interruption (by pressing the Center button while recording) will automatically reinitiate recording. This advanced feature eliminates the need for the user to physically restart recording in case of CamBall's remote location. (not applicable to normal recording).

4.3.3 Motion Detection Recording in Detail (SG31 Only)

- Motion detection minimizes memory and battery use by only recording when motion is detected.
- Motion Detection is available for Surveillance and Vehicle Recording only. In vehicle Recording, CamBall starts motion detection recording using built-in battery power once the engine is shutoff.
- With this option enabled, CamBall scans for motion every three seconds and, if motion is detected, starts recording for the configured duration of time (10 seconds by default - if recording video only (i.e. no audio), CamBall records for five seconds only).
- You have two configurable options of audio recording in motion detection recording..Such configurations can be set by clicking the setting menus, OPTION>RECORD SET>MOTION DETECT>AUDIO RECORDING METHOD.
  - **ON DETECTION**: When motion is detected, CamBall records video and audio only for the configured duration (Both power and memory saved, but audio interrupted during playback).
  - **ALWAYS**: When motion is detected, CamBall records video only for the configured duration and audio continuously; audio recording is not motion activated. (no power but memory saved , no audio interruptions during playback).

Note Entering Sleep Mode and Audio Interruptions under Motion Detection

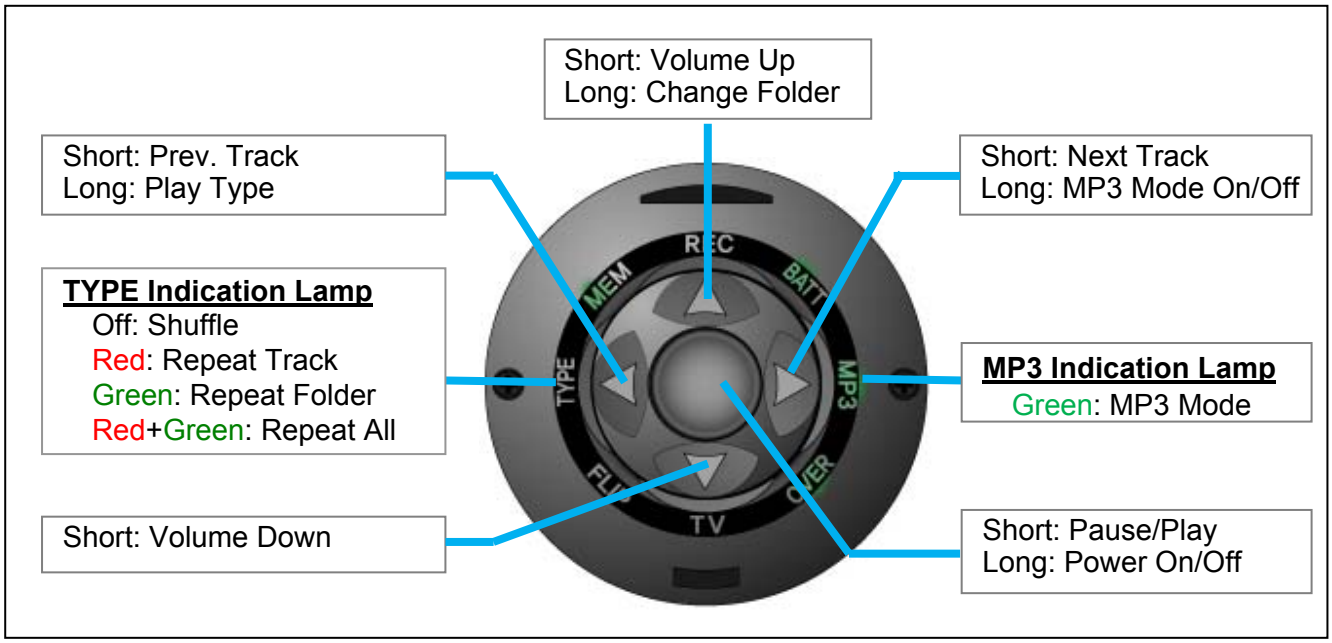
- **OPTION>RECORD SET>MOTION DETECT>AUDIO RECORDING METHOD = ON DETECTION**: When you playback a motion detection recording that was made under this setting, you may experience sudden interruptions in audio. This is not caused by production malfunction. In this setting, CamBall enters into sleep mode if there is no motion detected even if there is sound or voice, which result in audio interruptions in segments where there was no motion detected.
- **OPTION>RECORD SET>MOTION DETECT>AUDIO RECORDING METHOD = ALWAYS**: In this setting, CamBall does not enter into sleep mode when there is no motion detected and instead does continue recording audio only. This setting does not offer any power savings, but does reduce the amount of memory use.

Note Time Stamp

- Surveillance and vehicle recordings with Motion Detection enabled often contain skipped frame. Using the time stamp feature helps the user identify recording times with greater ease.
- Enable this option from OPTION>RECORD SET>TIMESTAMP to insert time stamps throughout Surveillance and vehicle recordings.

4.4 MP3 Mode

MP3 Mode Buttons and Indication Lamps

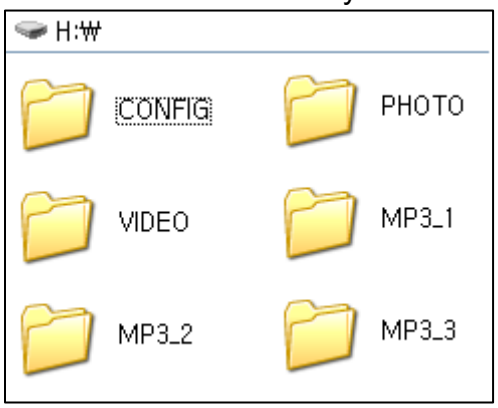


4.4.1 Enabling/Disabling MP3 Mode

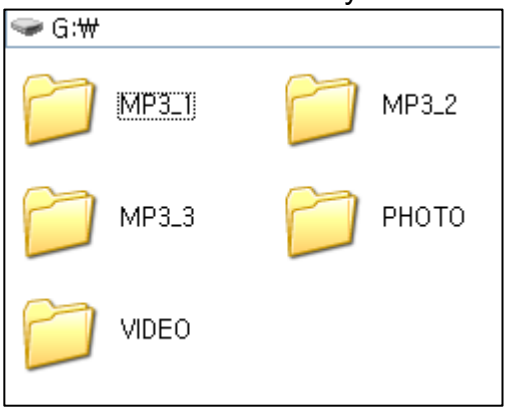
- Enabling MP3 Mode

– Connect CamBall to the PC (refer to section 4.1.3.1.).

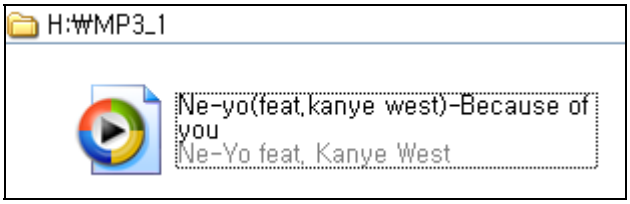
Built-in Memory



External Memory



– Copy MP3 files from the computer by dragging them to one of the MP3 folders of the internal or external disk drive of CamBall .



– Connect the earphones and the earphone gender to CamBall.

– CamBall being in Standby Mode, press and hold the [▶] button over 2 seconds to enable MP3 Mode. CamBall will automatically start playing your MP3 files.

Note If There is No MP3 Files in the MP3 Folder

Each of CamBall's internal and external disk drive contains three MP3 folders. If you set your CamBall on MP3 mode when all the MP3 files are vacant, all the indication lamps will blink five times and CamBall will revert back to Standby Mode.

Note MP3 File Playback Type and Folder Changeover

Change the MP3 playback type using the [◀] button. The playback type will change in the order of Shuffle→Repeat Track→Repeat Folder→Repeat All.

Pressing and holding of the [▲] button over 2 seconds to access the next folder is applicable only in the Repeat Folder playback type.

4.4.2 Editing MP3 Files

4.4.2.1. Editing from a PC

Refer to *4.4.1 Enabling/Disabling MP3 Mode*.

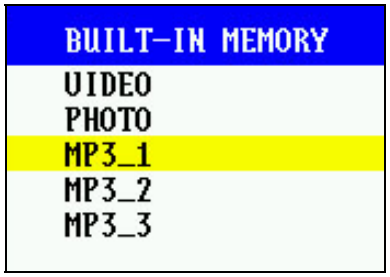
4.4.2.2. Editing from an External Display Device

Connect CamBall to an external display device (refer to section 4.1.2.) and then edit directly from the screen as follows:

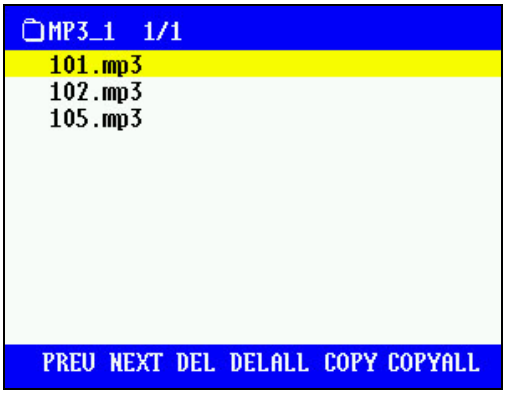
① Place the curser on Playback/Edit and press the Center button.

② Select Internal Memory or Micro SD Card and press the Center button.

③ Select the MP3 folder you wish to open and press the Center button.



④ Select the MP3 file you wish to play and press the Center button.



⑤ To end MP3 playback and return to the previous menu, press and hold the [◀] button over 2 seconds.

5. Initial Configurations

5.1 Overview

5.1.1 What are Initial Configurations?

- Initial Configurations refers to the process of upgrading your CamBall's software to the latest version and then making some basic configurations that are essential to the device's functionality.

5.1.2 What is Upgrading?

- In addition to the hardware components, CamBall also comes with the three software components: CamBall Firmware, CamBall Manager and StarEncoder.

  CamBall Firmware comes embedded in CamBall, CamBall Manager comes in the CD-ROM enclosed in the standard pack and should be installed to your computer and run when you change the setting of CamBall. StarEncoder also comes in the CD-ROM enclosed in the standard pack, and ,installed to your comouter, can be used to view and edit video files recorded with CamBall.
- Upgrading means replacing CamBall Firmware, CamBall Manager, and StarEncoder by their latest versions to ensure optimal device performance.
- Whenever a program is upgraded, all settings get restored back to their default values.

5.1.3 What are Basic Configurations?

- Basic Configurations include language setting, monitor type selection, and date/time settings

5.1.4 Initial Configuration Guide

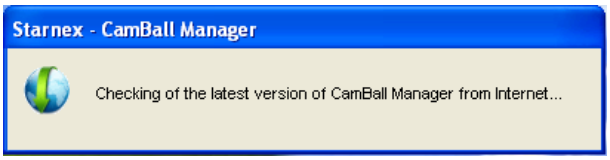
- Initial Configurations is performed using CamBall Manager (CamballManager3.exe).
- Make sure your PC is connected to the internet and then connect your CamBall to the PC using the USB cable(SG99)
- From the enclosed CD-ROM, copy the CamballManager3.exe file to your PC.
- Run the CamballManager3.exe file on the PC and you will be guided by the following steps:

  1. CamBall Manager Version Check: CamBall checks the version of CamBall Manager and upgrades it with a newer version, if any.
  2. CamBall Firmware Version Check: If CamBall Firmware is up to date, you will be prompted to make a language selection. If a newer version is available, firmware will be upgraded after you make the language selection.
  3. Once version checks have been completed, CamBall Manager will direct you to Basic Configurations.

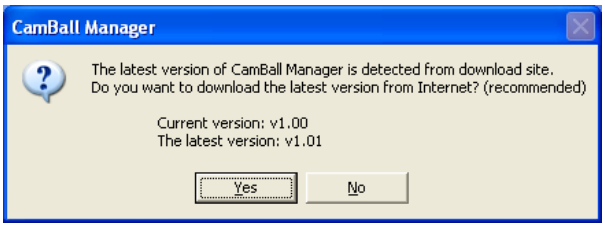
5.2 Upgrading

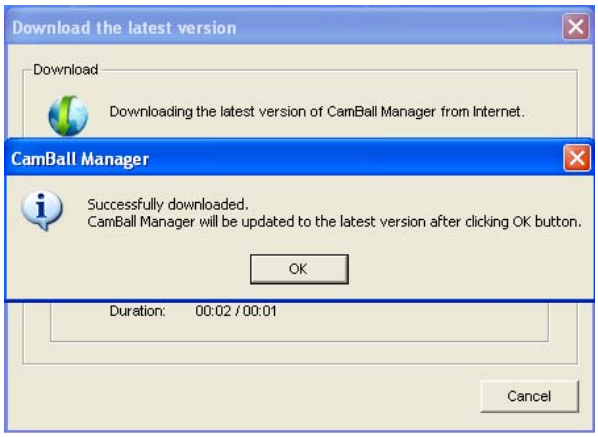
5.2.1 CamBall Manager

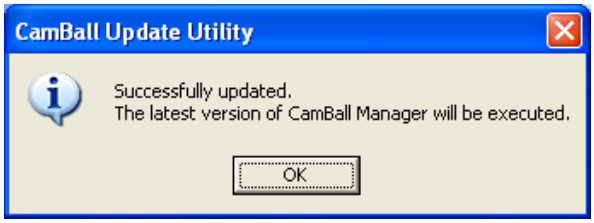
- When run, CamBall Manager checks for itself whether its version is up to date.



- If CamBall Manager is up to date, CamBall Manager will proceed to check the version of CamBall Firmware.
- If a later version is available, you will be prompted as shown in the diagrams below. Click Yes to upgrade CamBall Manager.

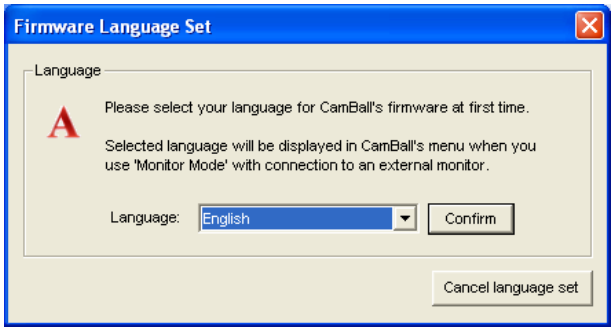

CamBall Manager
The latest version of CamBall Manager is detected from download site.
Do you want to download the latest version from Internet? (recommended)
Current version: v1.00
The latest version: v1.01
Yes
No


Download the latest version
Download
Downloading the latest version of CamBall Manager from Internet.
CamBall Manager
Successfully downloaded.
CamBall Manager will be updated to the latest version after clicking OK button.
OK
Duration: 00:02 / 00:01
Cancel

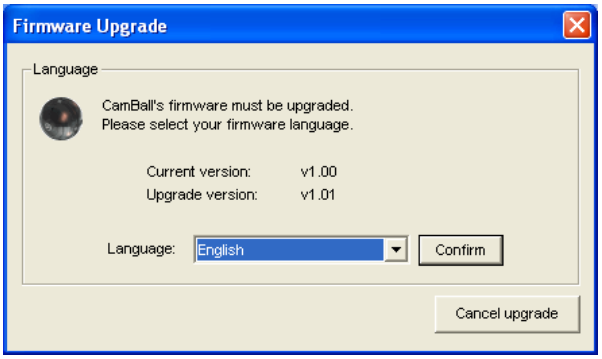


5.2.2 CamBall Firmware

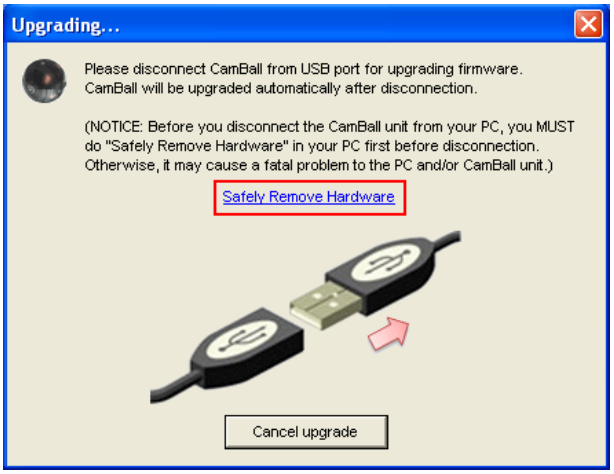
- After checking the version of CamBall Firmware, CamBall Manager will prompt you to make a language selection if CamBall Firmware is up to date.
- Clicking OK will finalize the upgrading process.


Firmware Language Set
Language
Please select your language for CamBall's firmware at first time.
Selected language will be displayed in CamBall's menu when you use 'Monitor Mode' with connection to an external monitor.
Language: English
Confirm
Cancel language set

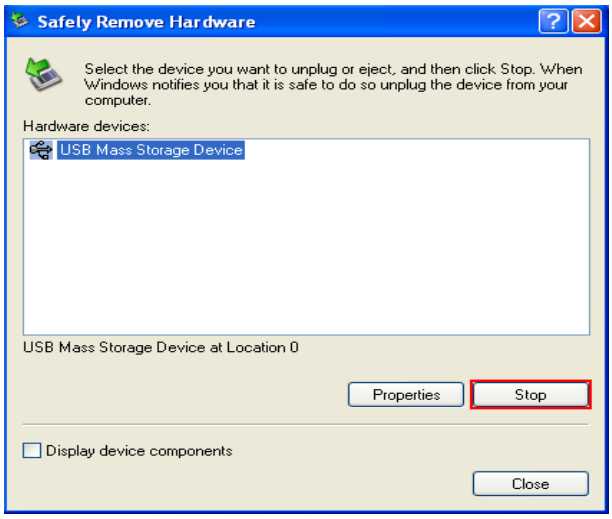
- If a newer version of CamBall Firmware is available, CamBall Manager will automatically commence the upgrade process after you make your language selection.



- When the following dialog prompts, click Safely Remove Hardware.


Upgrading...
Please disconnect CamBall from USB port for upgrading firmware.
CamBall will be upgraded automatically after disconnection.
(NOTICE: Before you disconnect the CamBall unit from your PC, you MUST do "Safely Remove Hardware" in your PC first before disconnection.
Otherwise, it may cause a fatal problem to the PC and/or CamBall unit.)
Safely Remove Hardware
Cancel upgrade

- In the next dialog, select USB Mass Storage Device and then click Stop.

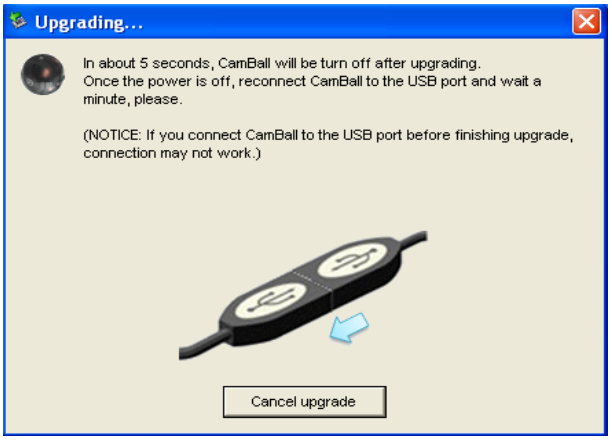

Safely Remove Hardware
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.
Hardware devices:
USB Mass Storage Device
USB Mass Storage Device at Location 0
Properties
Stop
Display device components
Close

- Then, select USB Mass Storage Device again in when the next dialog prompts and click OK.

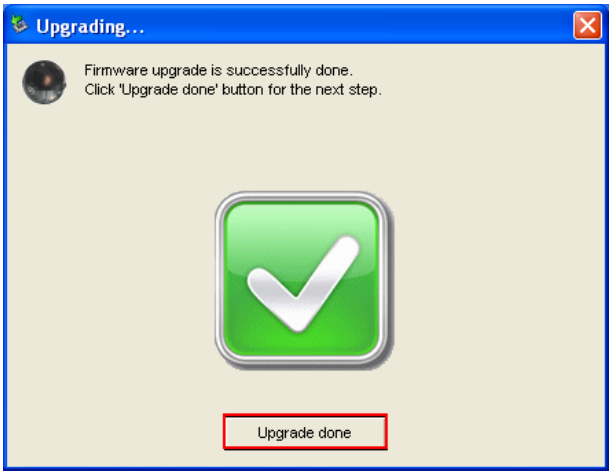
Stop a Hardware device
Confirm devices to be stopped, Choose OK to continue.
Windows will attempt to stop the following devices. After the devices are stopped they may be removed safely.
USB Mass Storage Device
Generic volume - (F:)
STARNEX PG USBSYSTEM USB Device
Generic volume - (E:)
STARNEX PG USBSYSTEM USB Device
OK
Cancel

- When the following message prompts, disconnect your CamBall from the computer.

- Once your CamBall powers down, reconnect it to the PC.


Upgrading...
In about 5 seconds, CamBall will be turn off after upgrading.
Once the power is off, reconnect CamBall to the USB port and wait a minute, please.
(NOTICE: If you connect CamBall to the USB port before finishing upgrade, connection may not work.)
Cancel upgrade

- When you see the dialog below, click Upgrade Done.

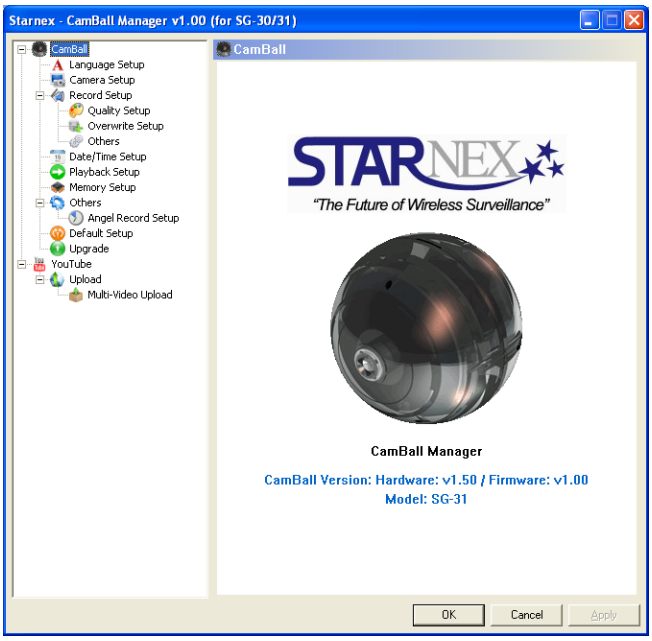


- You've now completed upgrading your CamBall. CamBall Manager will automatically take you to the Basic Configurations process.

5.3 Basic Configurations

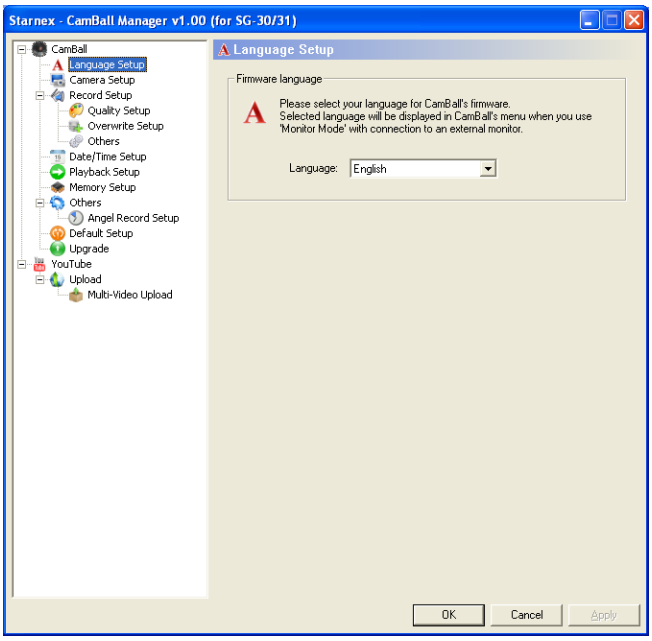
5.3.1 CamBall Manager Configurations

- After completing the upgrading process, CamBall Manager's Configurations menu will be displayed.



5.3.2 Language Selection

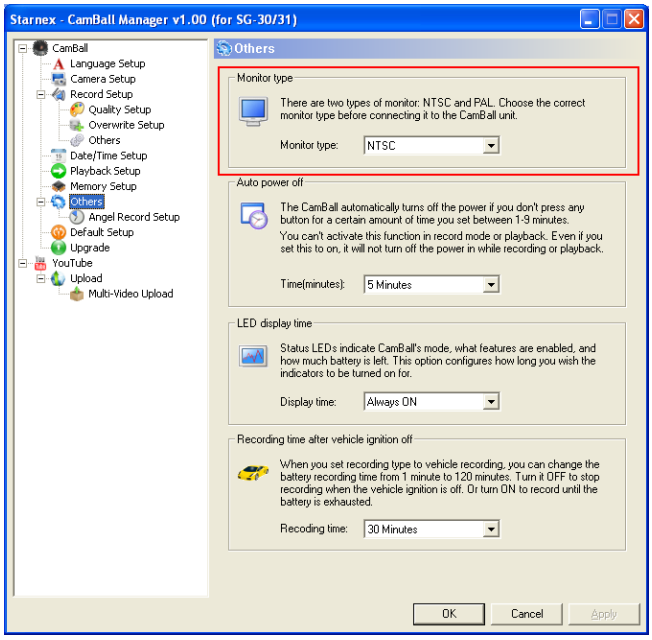
- Since you've already made your language selection during the upgrading process, you can skip this step.
- However, if you wish to change your language selection, select the desired language from the Language Set menu and then click Apply.



5.3.3 Monitor Type Selection

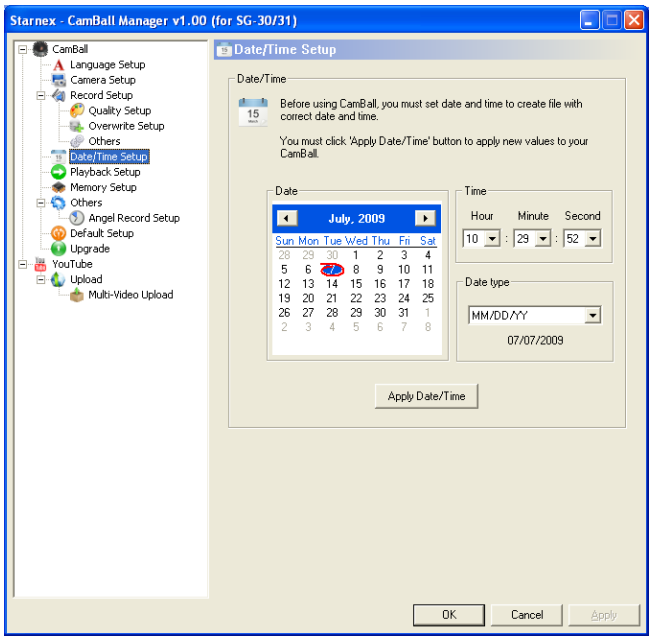
- In order to connect your CamBall to a TV or an LCD monitor (in TV mode), you will first need to identify the type of display device you intend to use. There are two formats: NTSC and PAL. The default monitor type setting is

NTSC.

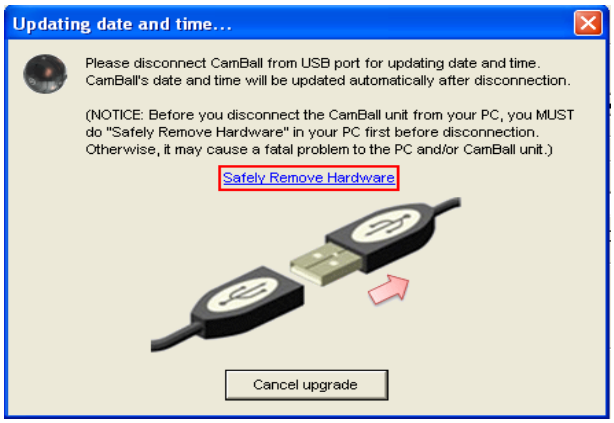

Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Monitor type
There are two types of monitor: NTSC and PAL. Choose the correct monitor type before connecting it to the CamBall unit.
Monitor type: NTSC
Auto power off
The CamBall automatically turns off the power if you don't press any button for a certain amount of time you set between 1-9 minutes.
You can't activate this function in record mode or playback. Even if you set this to on, it will not turn off the power in while recording or playback.
Time(minutes): 5 Minutes
LED display time
Status LEDs indicate CamBall's mode, what features are enabled, and how much battery is left. This option configures how long you wish the indicators to be turned on for.
Display time: Always ON
Recording time after vehicle ignition off
When you set recording type to vehicle recording, you can change the battery recording time from 1 minute to 120 minutes. Turn it OFF to stop recording when the vehicle ignition is off. Or turn ON to record until the battery is exhausted.
Recoding time: 30 Minutes
OK
Cancel
Apply

5.3.4 Date/Time Settings

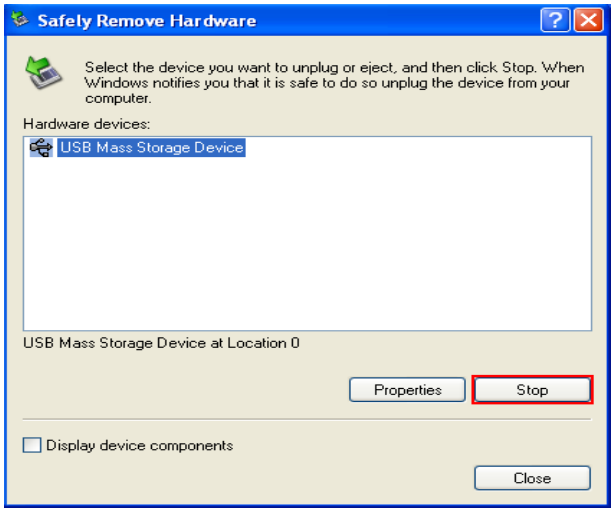
- From the Date/Time Set menu, set the current date and time and then the desired display format. Click Apply Date/Time when finished.



- A message will display, prompting you to disconnect your CamBall from the PC. Before disconnecting, however, make sure to click Safely Remove Hardware first.


Updating date and time...
Please disconnect CamBall from USB port for updating date and time.
CamBall's date and time will be updated automatically after disconnection.
(NOTICE: Before you disconnect the CamBall unit from your PC, you MUST do "Safely Remove Hardware" in your PC first before disconnection. Otherwise, it may cause a fatal problem to the PC and/or CamBall unit.)
Safely Remove Hardware
Cancel upgrade

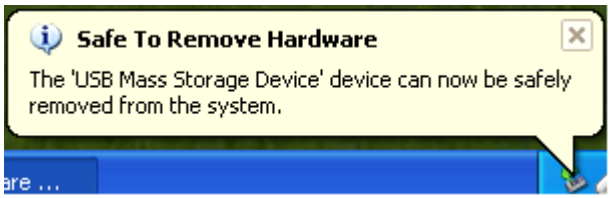
- Select the device you wish to remove from the PC and click Stop.


Safely Remove Hardware
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.
Hardware devices:
USB Mass Storage Device
USB Mass Storage Device at Location 0
Properties
Stop
Display device components
Close

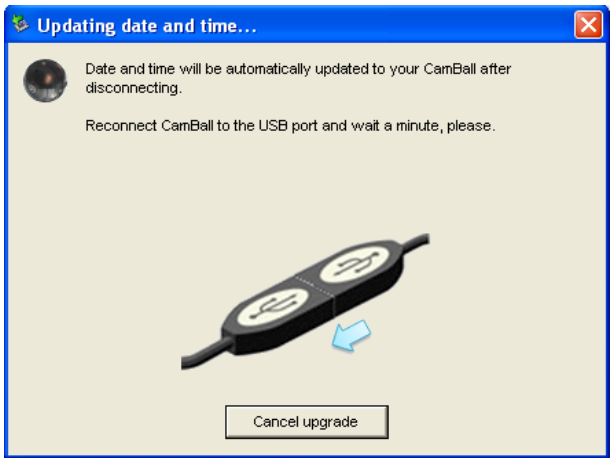
- When you see the following dialog, click OK.

Stop a Hardware device
Confirm devices to be stopped, Choose OK to continue.
Windows will attempt to stop the following devices. After the devices are stopped they may be removed safely.
USB Mass Storage Device
Generic volume - (F:)
STARNEX PG USBSYSTEM USB Device
Generic volume - (E:)
STARNEX PG USBSYSTEM USB Device
OK
Cancel

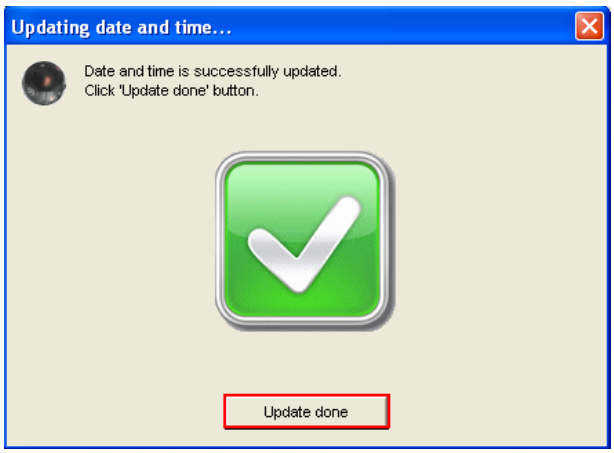
- Disconnect your CamBall from the PC once you see the following message:



- CamBall will automatically update its date and time. When the following dialog appears, reconnect your CamBall to the PC.


Updating date and time...
Date and time will be automatically updated to your CamBall after disconnecting.
Reconnect CamBall to the USB port and wait a minute, please.
Cancel upgrade

- After a few moments, you will see Update Done dialog. Click Apply Date/Time to complete your Initial Configurations.



6. CamBall Configurations

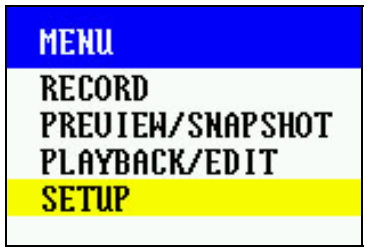
6.1 Configurations using an External Display Device

- **Activating/Deactivating TV Mode**:

– Connect CamBall to an external display device (refer to section 4.1.2.).

  - **Activation**: From Standby Mode (refer to section 4.1.1.), press and hold the ▼ button over 2 seconds. This will turn on the TV indication lamp and display the menu on the external display device.
  - **Deactivation**: Press and hold the ▼ button over 2 seconds. This will turn off the TV indication lamp and end signal output to the external display device.

- Activating TV Mode displays the following menu:



- Place the curser on SETUP and press the Center button.

6.1.1 Language

– Choose OPTION>LANGUAGE SET and select the desired language by pressing Center button.

6.1.2 Camera Settings

6.1.2.1. Brightness

– Choose OPTION>CAMERA SET, place the cursor on BRIGHTNESS and then press the **Center** button.

– A reference image will be displayed with a brightness level indication. Adjust the brightness level using the ▲ and ▼ buttons.

– Configurable range is between 1 and 20, and the default setting is 9.

6.1.2.2. Contrast

– Choose OPTION>CAMERA SET and place the cursor on CONTRAST and then press the **Center** button.

- A reference image will display with a contrast level indication. Adjust the contrast level using the ▲ and ▼ buttons.
- Configurable range is between 1 and 20, and the default setting is 15.

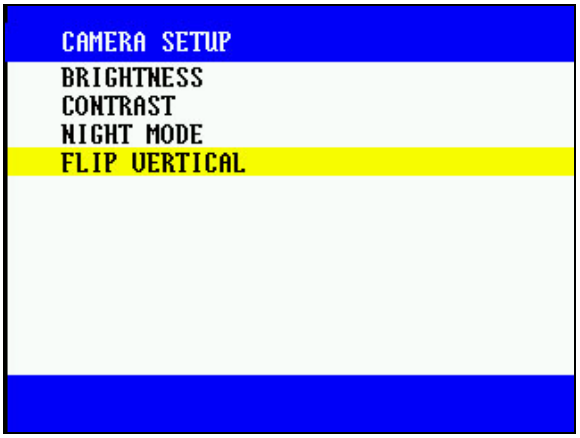
6.1.2.3. Night Mode

- Choose OPTION>CAMERA SET, place the curser on NIGHT MODE and then press the **Center** button.

- A reference image will be displayed with night mode status indication.
- Enable/disable using the ▲ and ▼ buttons.
- Enabling this option allows clearer recording under low light level conditions. The frame rate will decrease, however.
- The default setting is On.

6.1.2.4. Flip Vertical

- Choose OPTION>CAMERA SET , place the cursor on FLIP VERTICAL and then press the **Center** button.

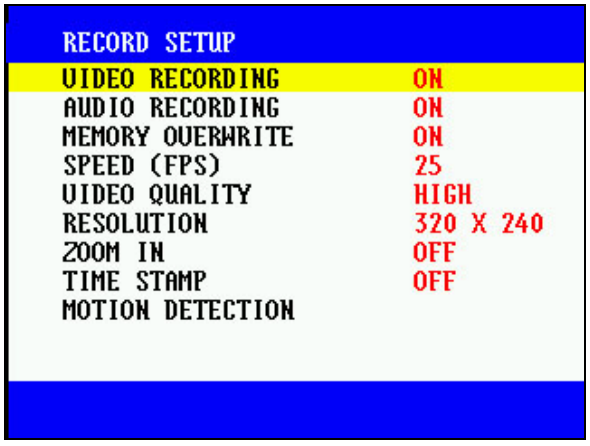


- A reference image will be displayed with flip vertical status indication. Enable/disable using the ▲ and ▼ buttons.
- Enabling this option vertically flips the imaging orientation.
- The default setting is Off.

6.1.3 Recording Settings

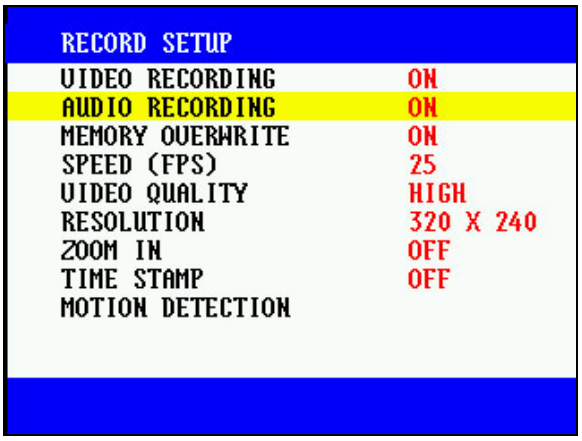
6.1.3.1. Video Recording

- Use this option to enable/disable video recording. Setting this option to Off disables video recording and enables audio recording only.
- Choose OPTION>RECORD SET, place the cursor on VIDEO and then press the **Center** button to enable/disable the option.
- The default setting is On.



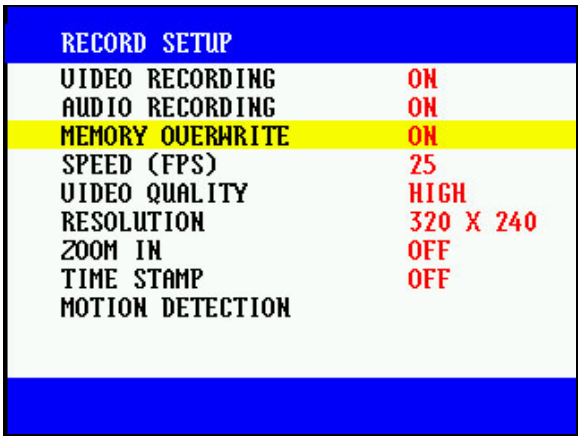
6.1.3.2. Audio Recording

- Use this option to enable/disable audio recording. Setting this option to Off disables audio recording and enables video recording only.
- Choose OPTION>RECORD SET and place the cursor on AUDIO and then press the **Center** button to enable/disable the option.
- The default setting is On.



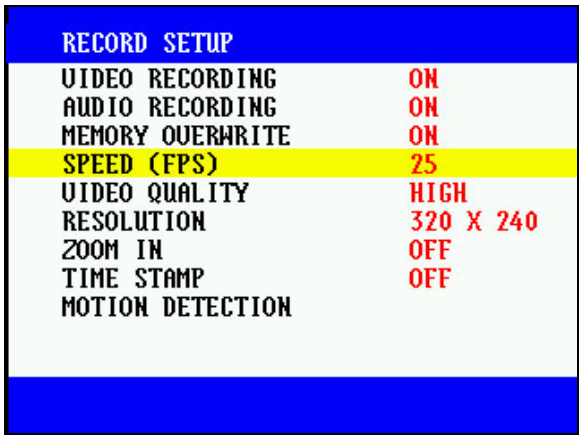
6.1.3.3. Overwrite Setting

- Enabling this option will overwrite oldest recording data with new recording data. Please backup all important files.
- Choose OPTION>RECORD SET, place the cursor on OVERWRITE and then press the **Center** button to enable/disable the option.
- The default setting is On.



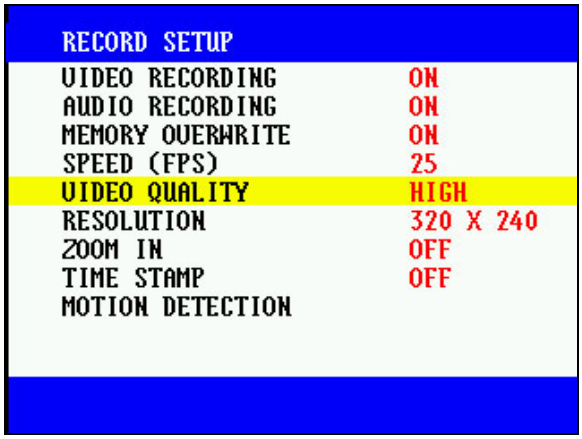
6.1.3.4. Frame Rate (FPS)

- Choose OPTION>RECORD SET, place the cursor on SPEED (FPS) and then press the **Center** button to select the frame rate.
- Available settings are 1, 3, 7, 15, and 25 frames per second.
- The default setting is 25 FPS.



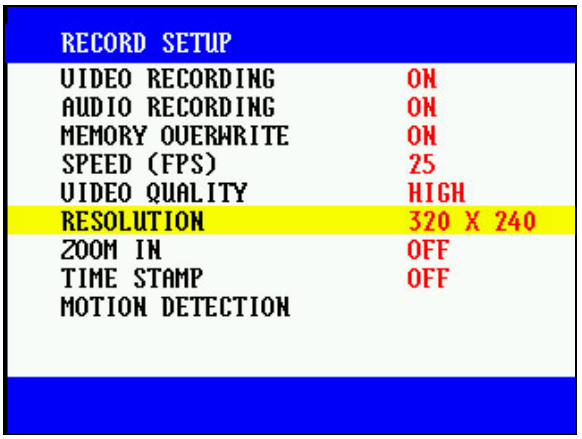
6.1.3.5. Video Quality

- Choose OPTION>RECORD SET, place the cursor on QUALITY and press the **Center** button to select the quality level.
- Available settings are Ultra High, High, Medium, and Low.
- Setting QUALITY to Ultra High will offer the best picture quality, but at the expense of larger file size.
- With High as the reference point, the following describes the relative increase/decrease in file size under different settings of video quality:
  - ✓ Ultra High: 70% larger than High
  - ✓ High: Reference Size
  - ✓ Medium: 40% smaller than High
  - ✓ Low: 45% smaller than High
- The default setting is High.



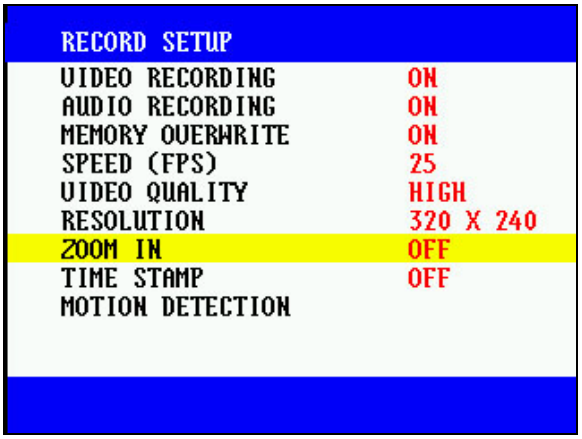
6.1.3.6. Resolution

- This option is set to 320X240.



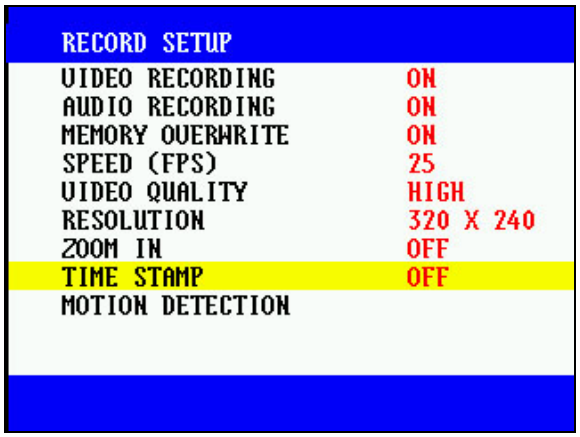
6.1.3.7. Zoom-In

- Choose OPTION>RECORD, place the cursor on ZOOM IN and then enable/disable the setting using the **Center** button.
- The default setting is Off.



6.1.3.8. Time Stamping

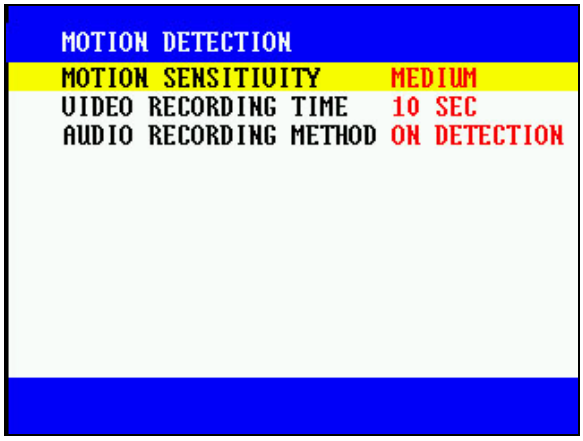
- Time stamp is a feature that displays the date and time on video recordings.
- Choose OPTION>RECORD SET, place the cursor on TIMESTAMP and then use the **Center** button to select the setting.
- Setting options available are Off, Top, and Bottom.
- The default setting is Off.



6.1.3.9. Motion Detection

1. Sensitivity

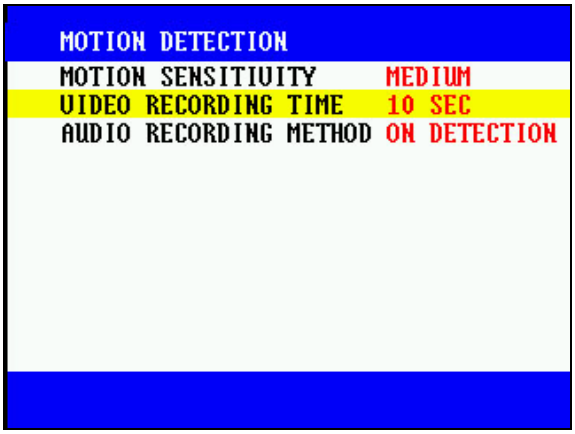
- Use this option to define the level of motion detection sensitivity.
- Ultra High makes motion detection highly sensitive, where as Ultra Low makes motion detection respond only to big movements.
- Choose OPTION>RECORD SET, place the cursor on MOTION DETECT and then press the **Center** button to select the setting.
- Setting options available are Ultra High, High, Medium, Low, and Ultra Low.
- The default setting is Medium.



2. Video Recording Time

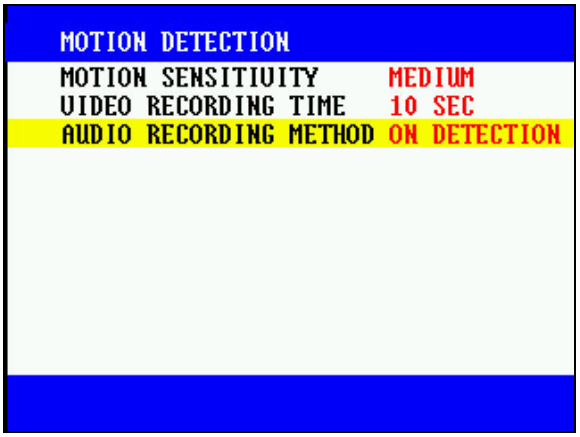
- Use this option to determine how long you wish CamBall to record video when motion is detected. After recording for the configured duration, CamBall will return to motion detection status (sleep mode).
- The default setting is 10 seconds.

Note **With Audio Recording disabled**
If CamBall is configured to record video only, motion detection will trigger 5-second recordings only, regardless of the video recording time setting.



3. Audio Recording Method

- Use this option to configure the audio recording method in the event of motion detection.
- Setting this option to **On Detection** records audio along with video upon motion detection.
- Setting this option to **Always** records audio only at all time (whether or not motion detected) and along with video upon motion detection.
- The default setting is On Detection.

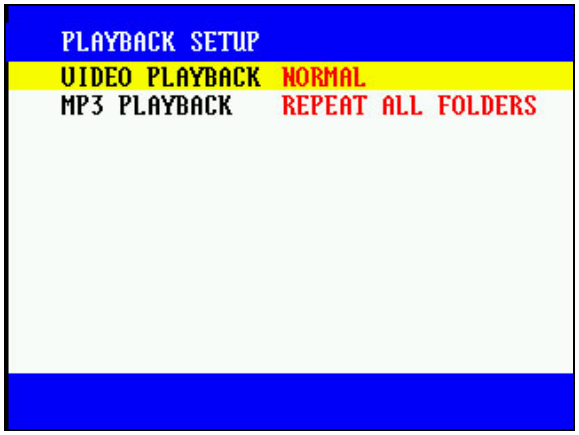


6.1.4 Playback Settings

6.1.4.1. Video Playback

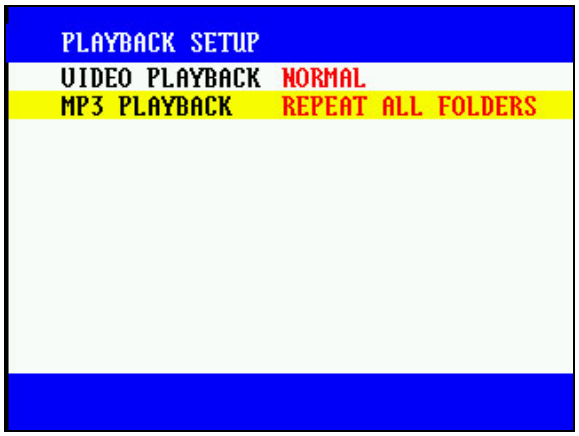
- Choose OPTION>PLAYBACK SET , place the cursor on VIDEO PLAYBACK SET and then press the **Center** button.

- Setting options available are Normal, Repeat, and Repeat All.
- The default setting is Normal.



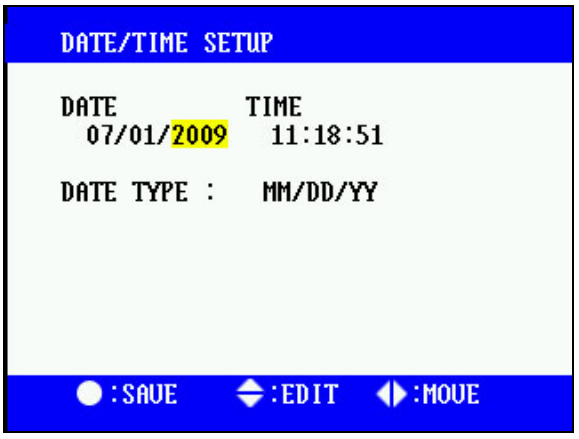
6.1.4.2. MP3 Playback

- Choose OPTION>PLAYBACK SET, place the cursor on MP3 PLAYBACK SET and then press the **Center** button.
- Setting options available are Shuffle, Repeat, Repeat Folder, and Repeat All.
- The default setting is Repeat All.



6.1.5 Date/Time

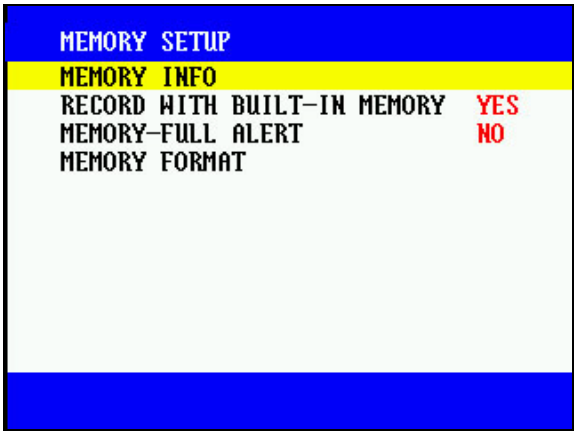
- Choose OPTION and place the cursor on DATE/TIME SET and then press the **Center** button.
- Use the ◀/▶ buttons to move the cursor and ▲/▼ buttons to change the setting.
- Press the **Center** button to apply the changes.



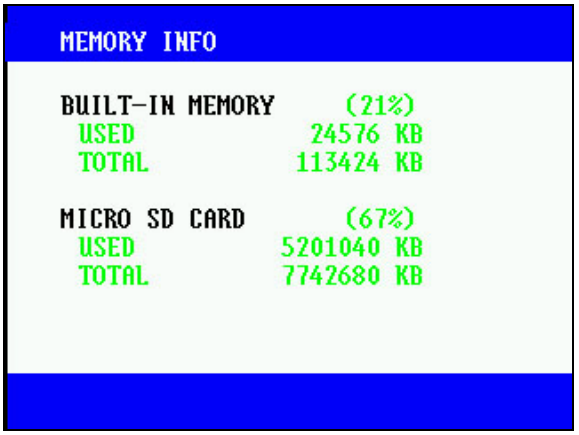
6.1.6 Memory Settings

6.1.6.1. Capacity

- Choose OPTION>MEMORY SET, place the cursor on CAPACITY and then press the **Center** button.



- Current memory usage status will display as shown below:

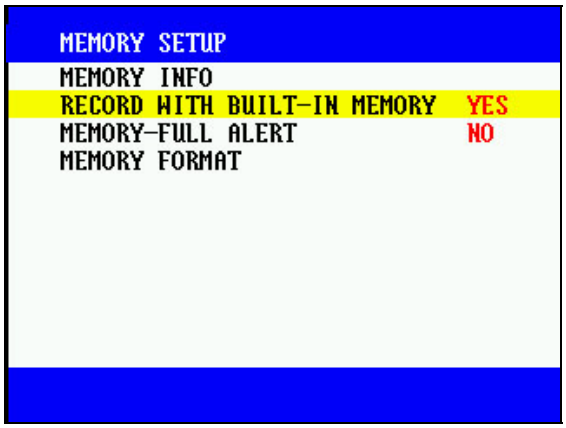


6.1.6.2. Built-in Memory

- CamBall features 128MB of internal memory and supports up to external Micro SD Cards up to 16GB.
- If you wish to record and save only to the

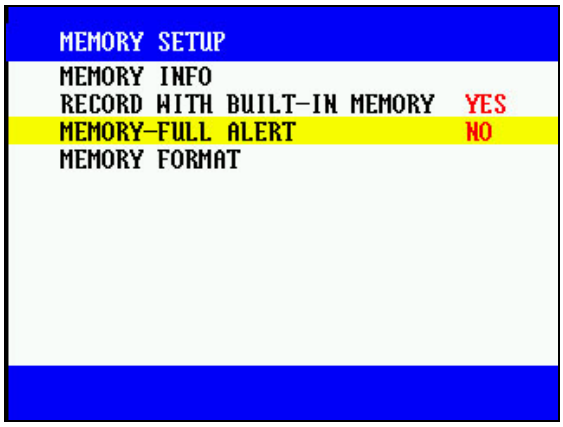
Micro SD card, please disable this option.

- Even with this option disabled, it will be possible for you to use the internal memory for your MP3 files.
- Choose OPTION>MEMORY SET, place the cursor on BUILT-IN MEMORY and then press the **Center** button to enable/disable.
- The default setting is On.



6.1.6.3. Memory Full Notification

- Choose OPTION>MEMORY SET, place the cursor on FULL STATUS and then press the **Center** button to enable/disable.
- Even though, with Overwrite enabled, new files will be overwritten on the existing files (starting with oldest first) when the memory reaches full capacity, recording, with Overwrite disabled, will automatically suspend when the memory reaches full capacity. If the Memory Full Notification enabled, the MEM indication lamp will blink in red five times to notify you that memory reaches full capacity.
- The default setting is Off.



6.1.6.4. Memory Format

- Choose OPTION>MEMORY SET, place the cursor on FORMAT and then press the **Center** button.
- The FORMAT menu will display, as shown below:

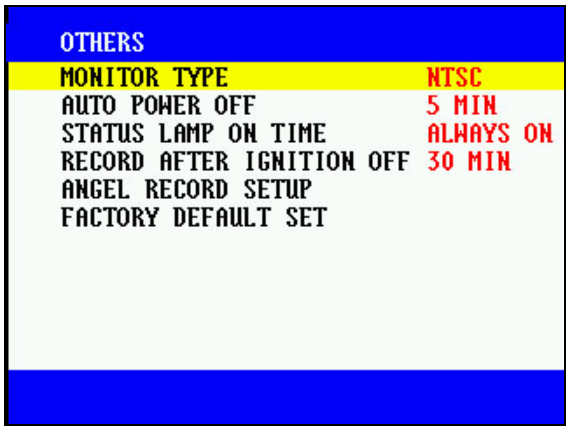
- The menu gives you the option to format either the built-in memory or the Micro SD card.
- Make your selection and press the **Center** button and you will be prompted with a confirmation message. Select Yes and press the **Center** button to format the selected memory.

> **Note Memory Format and Default Set**
> Memory Format erases all recorded data from the selected memory and should not be confused with Default Set, which restores all settings to factory default settings.

6.1.7 Other

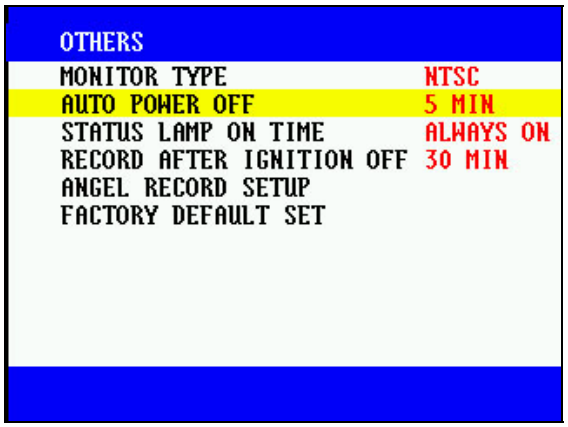
6.1.7.1. Monitor Type

- Choose OPTION>OTHERS, place the cursor on MONITOR TYPE and then press the **Center** button to select between NTSC and PAL.
- The default setting is NTSC.



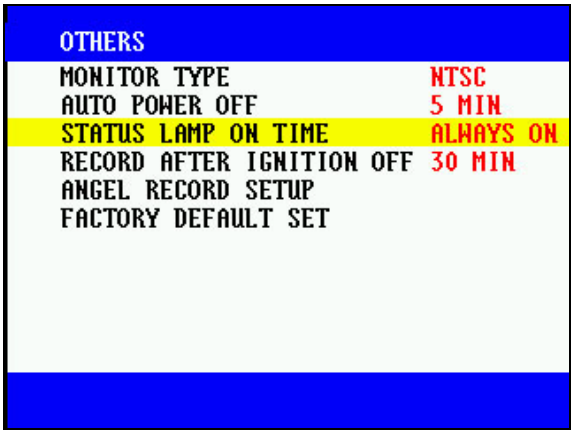
6.1.7.2. Auto Power Off

- Auto Power Off is an option that automatically turns off the power of CamBall if no action is taken for the configured amount of time (1~9mins).
- Choose OPTION>OTHERS, place the cursor on AUTO POWER OFF and then use the **Center** button to make your selection.
- Set to Off or configure between 1 and 9 minutes.
- The default setting is 5 minutes.



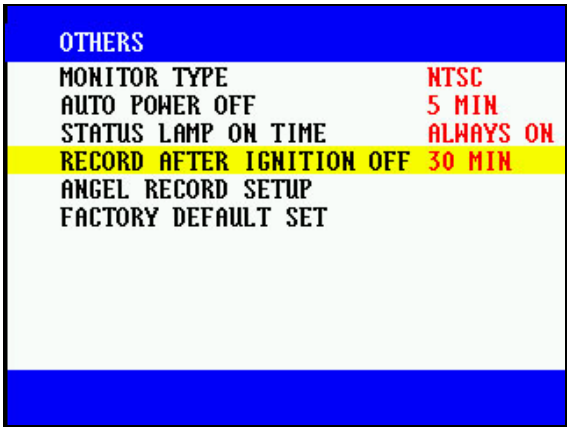
6.1.7.3. Status Indication Lamp-On Time

- Choose OPTION>OTHERS, place the cursor on STATUS INDICATION LAMP ON TIME and then press the **Center** button to make your selection.
- Setting options available are Always On and 5 Seconds.
- Selecting Always On means the indication lamps are on at all times, which consumes the battery power fast.
- The default setting is 'Always On'.



6.1.7.4. Recording Duration After Engine Shutoff

- This option applies to Vehicle Recording option. Specifically, this option allows you to define the duration of recording after the engine is shut off. If set to On, CamBall will continue recording until its battery is completely depleted even after the engine is shut off.
- Choose OPTION>OTHERS, place the cursor on VEHICLE BATTERY TIME and then press the **Center** button.
- Setting options available are Off, On, 1~9mins, and 10~120mins.
- The default setting is 30 minutes.



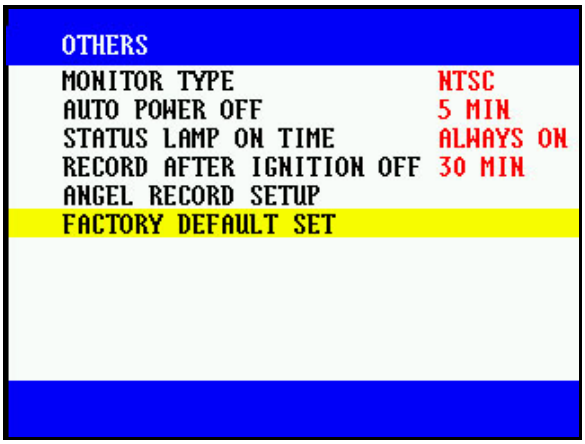
6.1.7.5. Angel Recording

- This option is used to enable/disable the Angle Recording option and to configure the recording time, standby time, and emergency recording time for Angel Recording.

- With Angel Recording option enabled, CamBall will record for the defined recording time, stop recording for the defined standby time, and repeat the process.
- Pressing the **Center** button in an emergency situation triggers CamBall to start recording for the defined emergency record duration.
- Choose OPTION>OTHERS, place the cursor on ANGEL RECORD SETUP and then press the **Center** button.
- Setting options are as follows:
  - **RECORD TIME:** 5~30secs
  - **STANDBY TIME:** 1~9mins
  - **EMERGENCY RECORD:** 1~9mins
- Default settings are 10 seconds, 2 minutes, and 1 minute, respectively.

6.1.7.6. CamBall Reset

- This option resets all CamBall settings to their default values, overriding all user-defined configurations and restoring factory default settings.
- However, Language, Monitor Type, and Date/Time configurations are excluded from being reset to default settings.
- Choose OPTION>OTHERS, place the cursor on DEFAULT RESET and then press the **Center** button.
- You will be prompted with a confirmation message. Select Yes and then press the **Center** button to reset your CamBall.

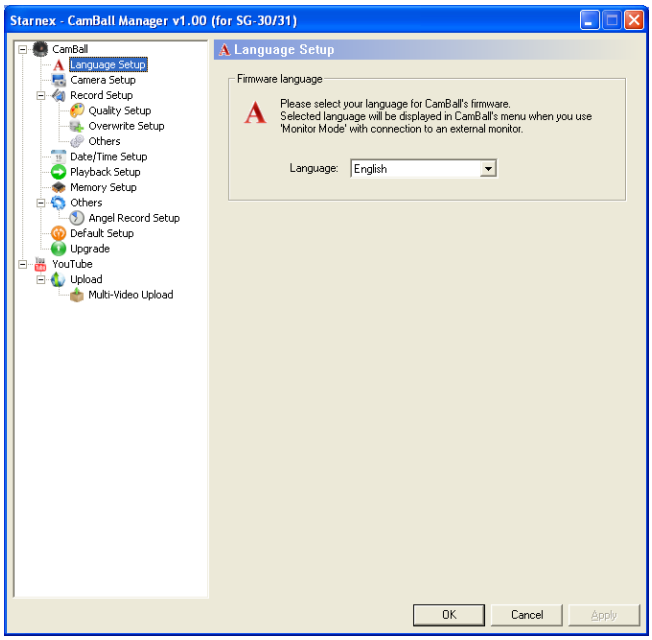


6.2 From CamBall Manager

- Connect CamBall to your PC using the USB cable. The top, bottom, left, and right indication lamps will turn on Red + Green to indicate that CamBall has been recognized and is being charged.
- From the PC, run CamballManager3.exe (inside the CD-ROM) and CamBall Manager's main menu will pop up.
- Changes made from CamBall Manager will only take effect after pressing Apply or OK button.

6.2.1 Language

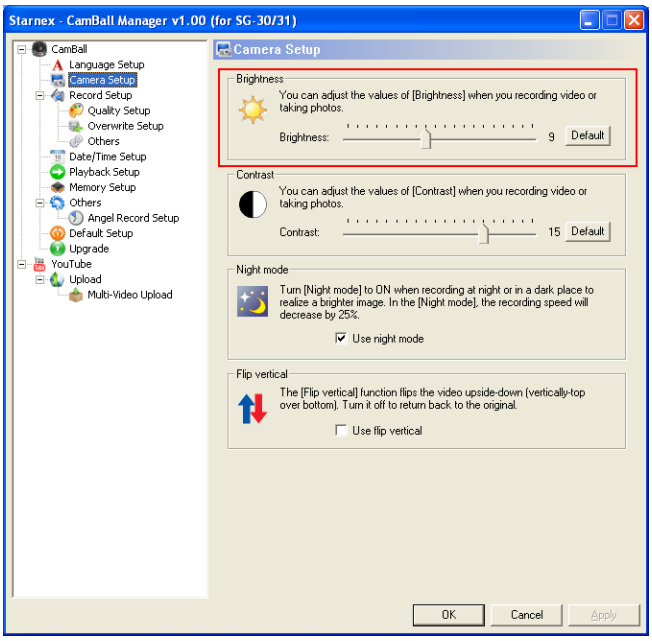
- Select the desired language from Language Set and then click Apply.



6.2.2 Camera Settings

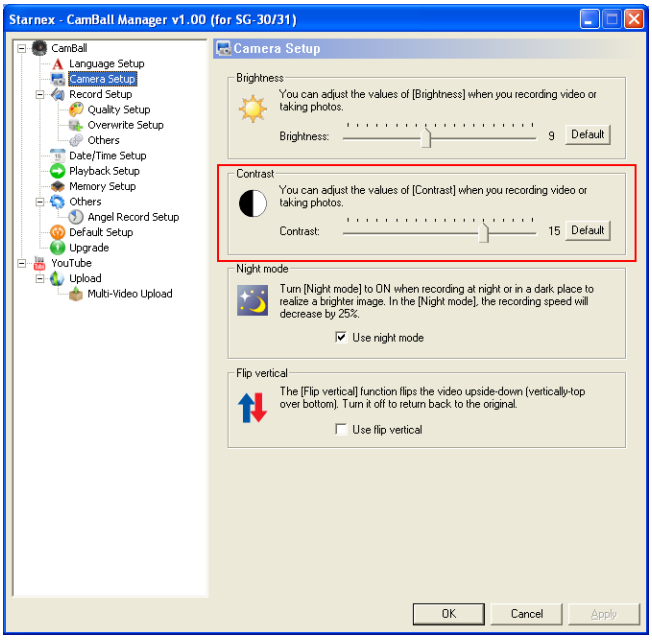
6.2.2.1. Brightness

- Choose Camera Set>Brightness and adjust the brightness level using the sliding bar. Click Apply.
- Configurable range is between 1 and 20, and the default setting is 9.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Camera Setup
Brightness
You can adjust the values of [Brightness] when you recording video or taking photos.
Brightness: 9 Default
Contrast
You can adjust the values of [Contrast] when you recording video or taking photos.
Contrast: 15 Default
Night mode
Turn [Night mode] to ON when recording at night or in a dark place to realize a brighter image. In the [Night mode], the recording speed will decrease by 25%.
Use night mode
Flip vertical
The [Flip vertical] function flips the video upside-down (vertically-top over bottom). Turn it off to return back to the original.
Use flip vertical
OK
Cancel
Apply

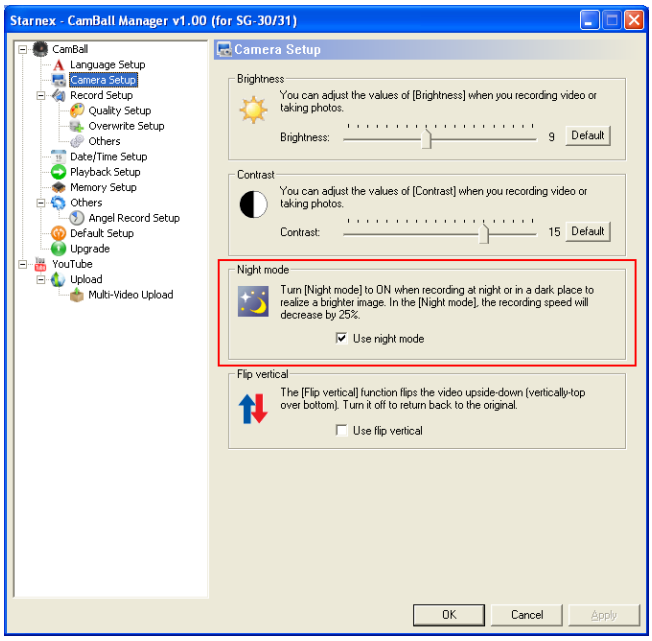
6.2.2.2. Contrast

- Choose Camera Set>Contrast and adjust the contrast level using the sliding bar. Click Apply.
- Configurable range is between 1 and 20, and the default setting is 15.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Camera Setup
Brightness
You can adjust the values of [Brightness] when you recording video or taking photos.
Brightness: 9 Default
Contrast
You can adjust the values of [Contrast] when you recording video or taking photos.
Contrast: 15 Default
Night mode
Turn [Night mode] to ON when recording at night or in a dark place to realize a brighter image. In the [Night mode], the recording speed will decrease by 25%.
Use night mode
Flip vertical
The [Flip vertical] function flips the video upside-down (vertically-top over bottom). Turn it off to return back to the original.
Use flip vertical
OK
Cancel
Apply

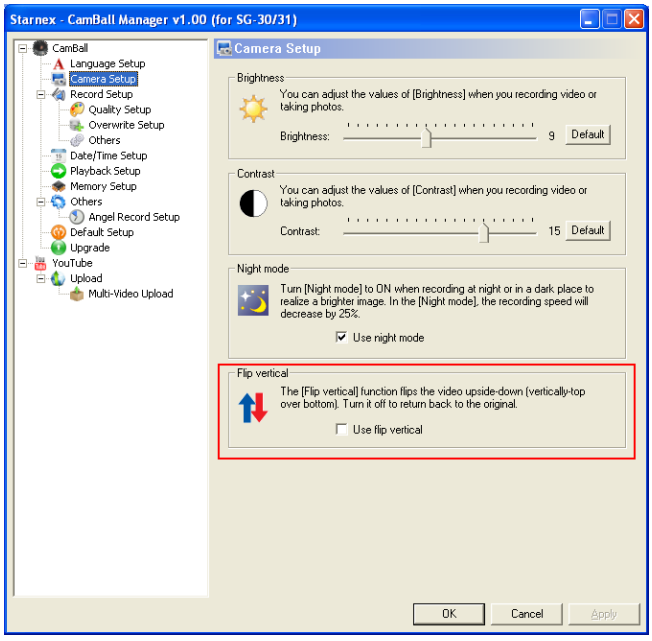
6.2.2.3. Night Mode

- Choose Camera Set>Night Mode and check the box and then click Apply to enable. The default setting is On.



6.2.2.4. Flip Vertical

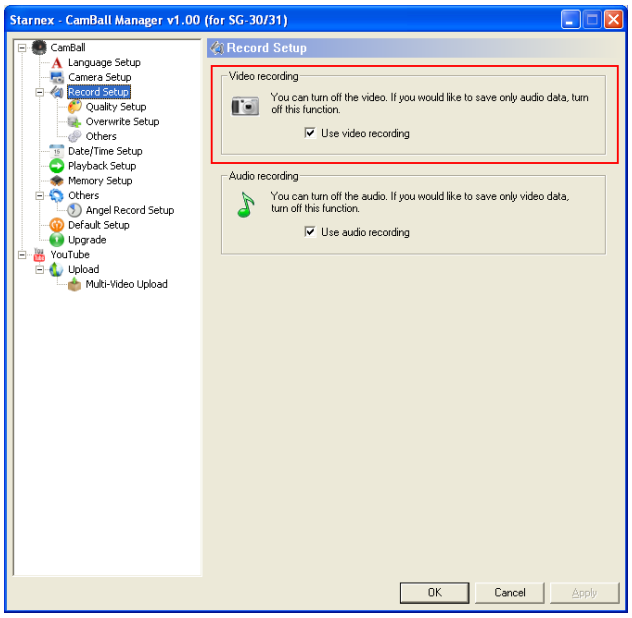
- Choose CAMERA SET>FLIP VERTICAL and check the box, and then click Apply to enable.
- The default setting is Off (unchecked).



6.2.3 Recording Settings

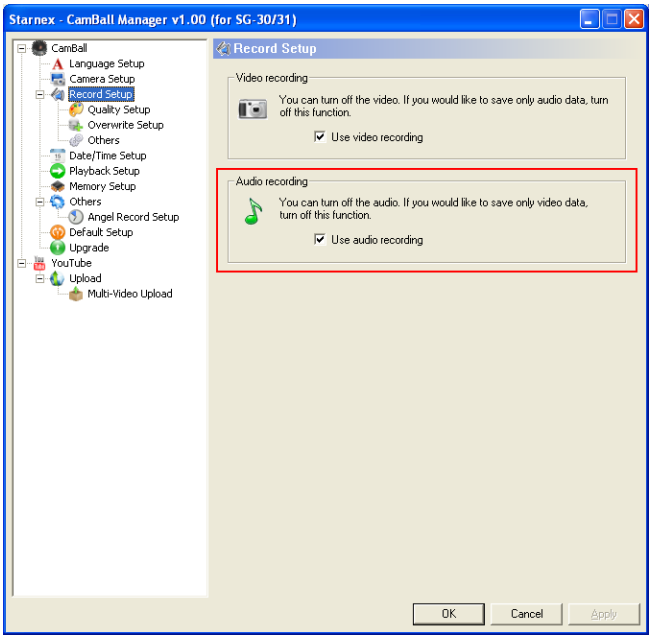
6.2.3.1. Video Recording

- Choose RECORD SET>VIDEO SET and check the box, and then click Apply to enable.
- The default setting is On (checked).



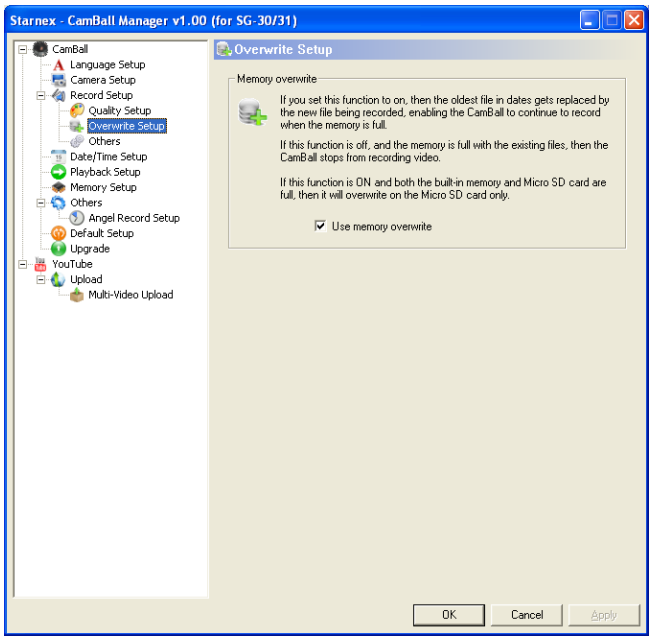
6.2.3.2. Audio Recording

- Choose RECORD SET>AUDIO SET and check the box, and then click Apply to enable.
- The default setting is On (checked).



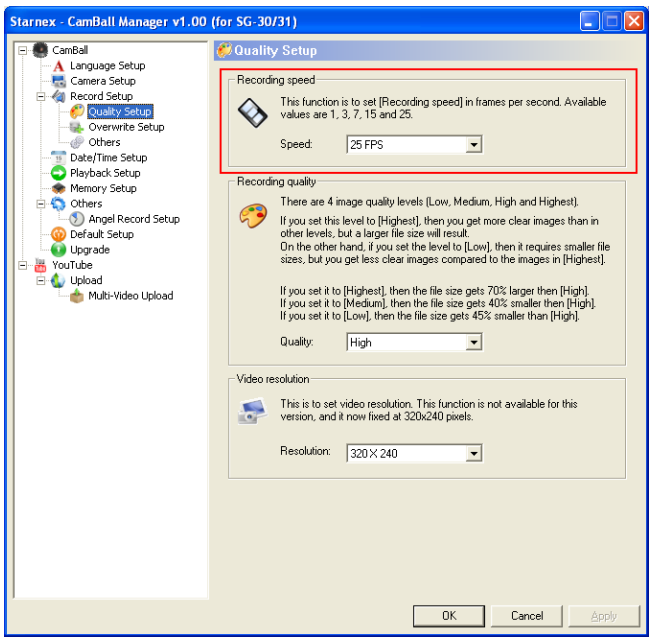
6.2.3.3. Overwrite Setting

- Choose RECORD SET>OVERWRITE and check the box, and then click Apply to enable.
- The default setting is On (checked).


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Overwrite Setup
Memory overwrite
If you set this function to on, then the oldest file in dates gets replaced by the new file being recorded, enabling the CamBall to continue to record when the memory is full.
If this function is off, and the memory is full with the existing files, then the CamBall stops from recording video.
If this function is ON and both the built-in memory and Micro SD card are full, then it will overwrite on the Micro SD card only.
Use memory overwrite
OK
Cancel
Apply

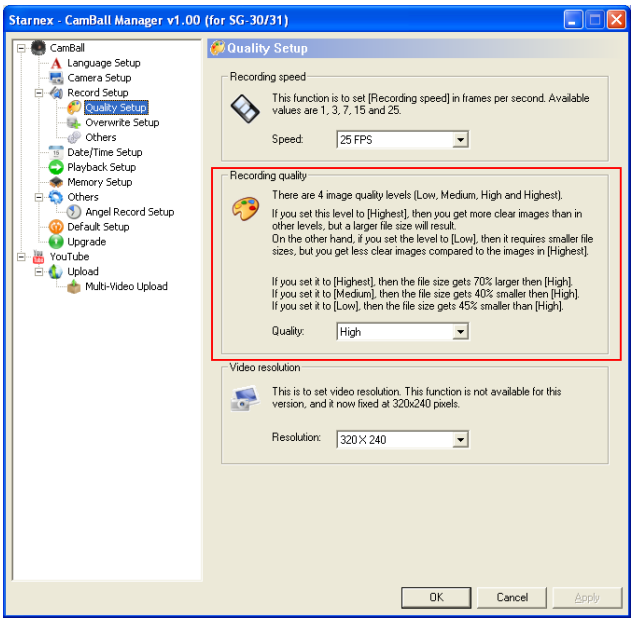
6.2.3.4. Frame Rate (FPS)

- Choose RECORD SET>QUALITY SET>RECORDING SPEED and select the FPS, and then click Apply.
- The default setting is 25 FPS.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Quality Setup
Recording speed
This function is to set [Recording speed] in frames per second. Available values are 1, 3, 7, 15 and 25.
Speed:
25 FPS
Recording quality
There are 4 image quality levels (Low, Medium, High and Highest).
If you set this level to [Highest], then you get more clear images than in other levels, but a larger file size will result.
On the other hand, if you set the level to [Low], then it requires smaller file sizes, but you get less clear images compared to the images in [Highest].
If you set it to [Highest], then the file size gets 70% larger then [High].
If you set it to [Medium], then the file size gets 40% smaller then [High].
If you set it to [Low], then the file size gets 45% smaller than [High].
Quality:
High
Video resolution
This is to set video resolution. This function is not available for this version, and it now fixed at 320x240 pixels.
Resolution:
320 X 240
OK
Cancel
Apply

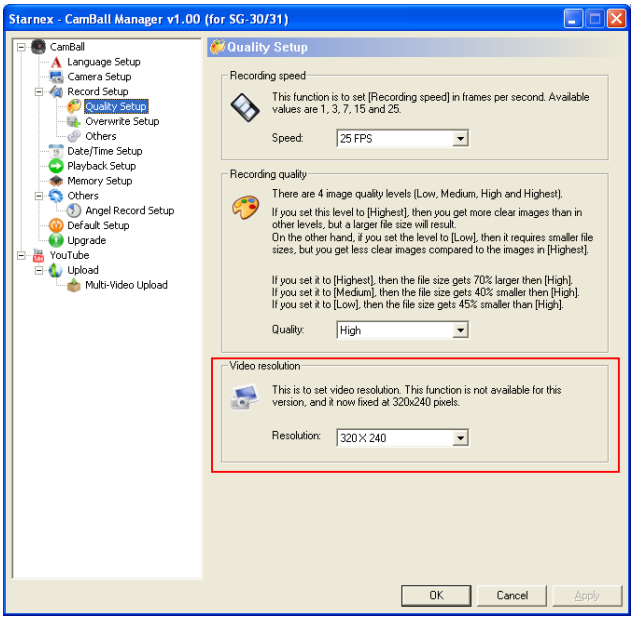
6.2.3.5. Video Quality

- Choose RECORDING SET>QUALITY SET and select the desired quality, and click Apply.
- The default setting is High.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Quality Setup
Recording speed
This function is to set [Recording speed] in frames per second. Available values are 1, 3, 7, 15 and 25.
Speed:
25 FPS
Recording quality
There are 4 image quality levels (Low, Medium, High and Highest).
If you set this level to [Highest], then you get more clear images than in other levels, but a larger file size will result.
On the other hand, if you set the level to [Low], then it requires smaller file sizes, but you get less clear images compared to the images in [Highest].
If you set it to [Highest], then the file size gets 70% larger then [High].
If you set it to [Medium], then the file size gets 40% smaller then [High].
If you set it to [Low], then the file size gets 45% smaller than [High].
Quality:
High
Video resolution
This is to set video resolution. This function is not available for this version, and it now fixed at 320x240 pixels.
Resolution:
320 X 240
OK
Cancel
Apply

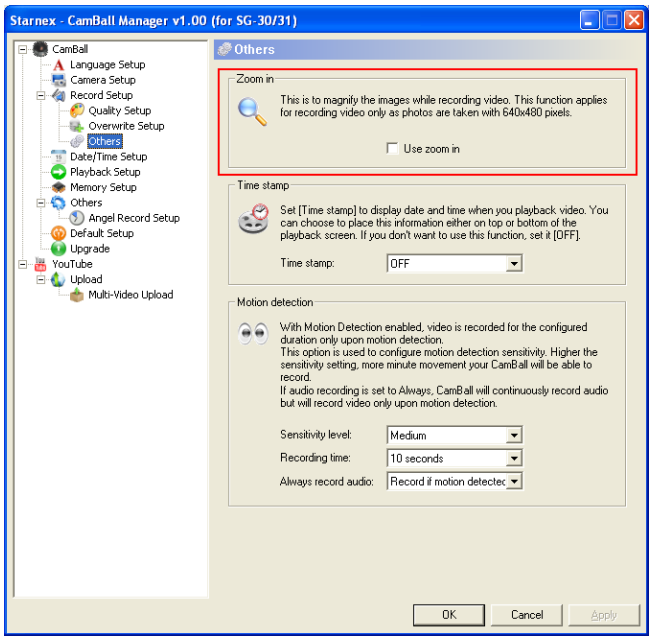
6.2.3.6. RESOLUTION

- Choose RECORD SET>IMAGE RESOLUTION and select the desired size and then click Apply.
- This option is set to 320X240.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Quality Setup
Recording speed
This function is to set [Recording speed] in frames per second. Available values are 1, 3, 7, 15 and 25.
Speed:
25 FPS
Recording quality
There are 4 image quality levels (Low, Medium, High and Highest).
If you set this level to [Highest], then you get more clear images than in other levels, but a larger file size will result.
On the other hand, if you set the level to [Low], then it requires smaller file sizes, but you get less clear images compared to the images in [Highest].
If you set it to [Highest], then the file size gets 70% larger then [High].
If you set it to [Medium], then the file size gets 40% smaller then [High].
If you set it to [Low], then the file size gets 45% smaller than [High].
Quality:
High
Video resolution
This is to set video resolution. This function is not available for this version, and it now fixed at 320x240 pixels.
Resolution:
320 X 240
OK
Cancel
Apply

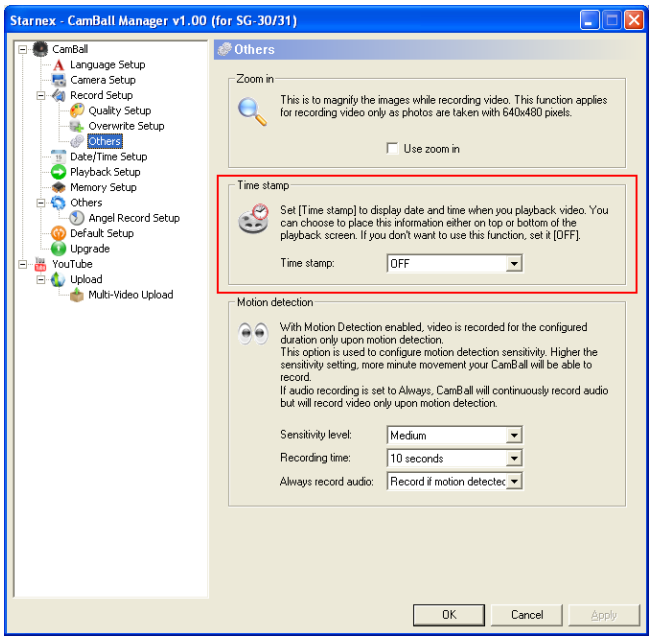
6.2.3.7. Zoom-In

- Choose RECORD SET>OTHERS>ZOOM IN and check the box and then click Apply to enable.
- The default setting is off (unchecked).


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Zoom in
This is to magnify the images while recording video. This function applies for recording video only as photos are taken with 640x480 pixels.
Use zoom in
Time stamp
Set [Time stamp] to display date and time when you playback video. You can choose to place this information either on top or bottom of the playback screen. If you don't want to use this function, set it [OFF].
Time stamp:
OFF
Motion detection
With Motion Detection enabled, video is recorded for the configured duration only upon motion detection.
This option is used to configure motion detection sensitivity. Higher the sensitivity setting, more minute movement your CamBall will be able to record.
If audio recording is set to Always, CamBall will continuously record audio but will record video only upon motion detection.
Sensitivity level:
Medium
Recording time:
10 seconds
Always record audio:
Record if motion detectec
OK
Cancel
Apply

6.2.3.8. Time Stamping

- Choose RECORD SET>OTHERS>TIME STAMP and select the desired setting.
- Setting options available are Off, Top, and Bottom.
- The default setting is Off.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Zoom in
This is to magnify the images while recording video. This function applies for recording video only as photos are taken with 640x480 pixels.
Use zoom in
Time stamp
Set [Time stamp] to display date and time when you playback video. You can choose to place this information either on top or bottom of the playback screen. If you don't want to use this function, set it [OFF].
Time stamp:
OFF
Motion detection
With Motion Detection enabled, video is recorded for the configured duration only upon motion detection.
This option is used to configure motion detection sensitivity. Higher the sensitivity setting, more minute movement your CamBall will be able to record.
If audio recording is set to Always, CamBall will continuously record audio but will record video only upon motion detection.
Sensitivity level:
Medium
Recording time:
10 seconds
Always record audio:
Record if motion detectec
OK
Cancel
Apply

6.2.3.9. Motion Detection

1. Sensitivity

- Choose RECORD SET>OTHERS>MOTION DETECTION LEVEL and select the desired setting.
- Setting options available are Ultra High, High, Medium, Low, and Ultra Low.
- The default setting is Medium.

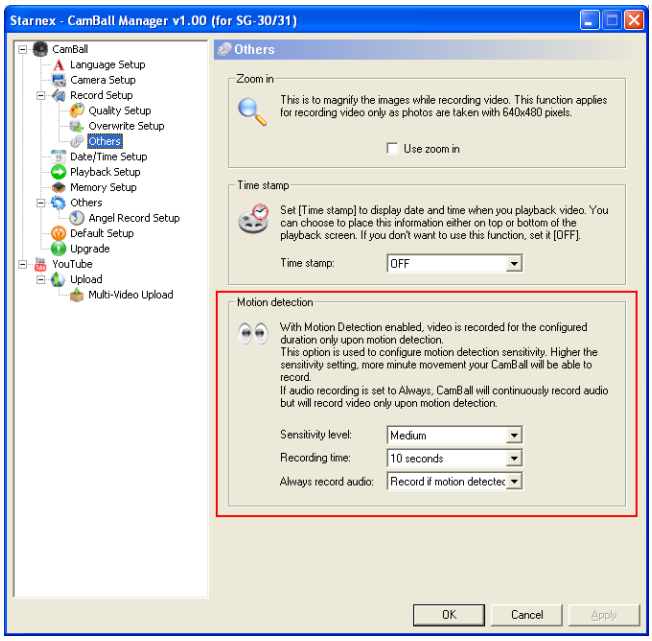
2. Video Recording Time

- Choose RECORD SET>OTHERS>MOTION DETECTION>RECORDING TIME and adjust it.
- Use this option to determine how long you wish CamBall to record video when motion is detected. After recording for the configured duration, CamBall will return to motion detection status(sleep mode).
- The default setting is 10 seconds.

> **Note With Audio Recording disabled**
> If CamBall is configured to record video only, motion detection will trigger 5-second recordings only, regardless of the video recording time setting.

3. Audio Recording Method

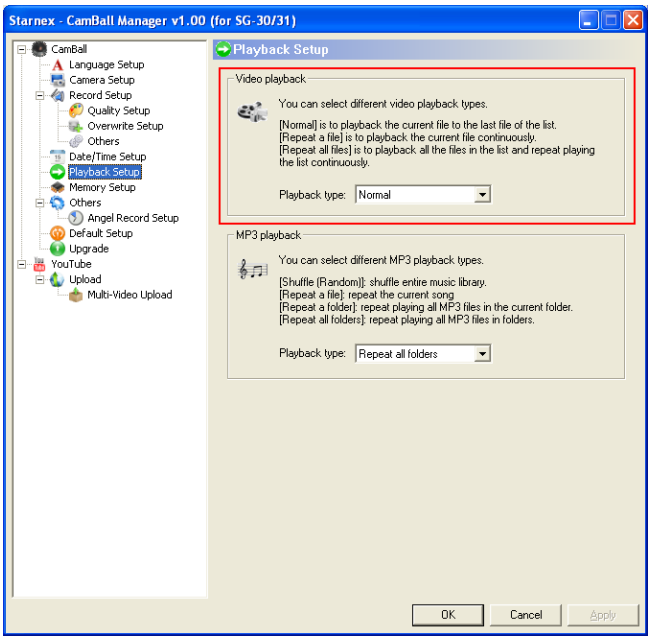
- Choose RECORD SET>OTHERS>MOTION DETECTION>AUDIO RECORDING and adjust it.
- Use this option to configure the audio recording method in the event of motion detection.
- Setting this option to **On Detection** records audio along with video upon motion detection.
- Setting this option to **Always** records audio at all time (whether or not motion detected) and along with video upon motion detection.
- The default setting is **On Detection**.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Zoom in
This is to magnify the images while recording video. This function applies for recording video only as photos are taken with 640x480 pixels.
Use zoom in
Time stamp
Set [Time stamp] to display date and time when you playback video. You can choose to place this information either on top or bottom of the playback screen. If you don't want to use this function, set it [OFF].
Time stamp:
OFF
Motion detection
With Motion Detection enabled, video is recorded for the configured duration only upon motion detection.
This option is used to configure motion detection sensitivity. Higher the sensitivity setting, more minute movement your CamBall will be able to record.
If audio recording is set to Always, CamBall will continuously record audio but will record video only upon motion detection.
Sensitivity level:
Medium
Recording time:
10 seconds
Always record audio:
Record if motion detectec
OK
Cancel
Apply

6.2.4 Playback Settings

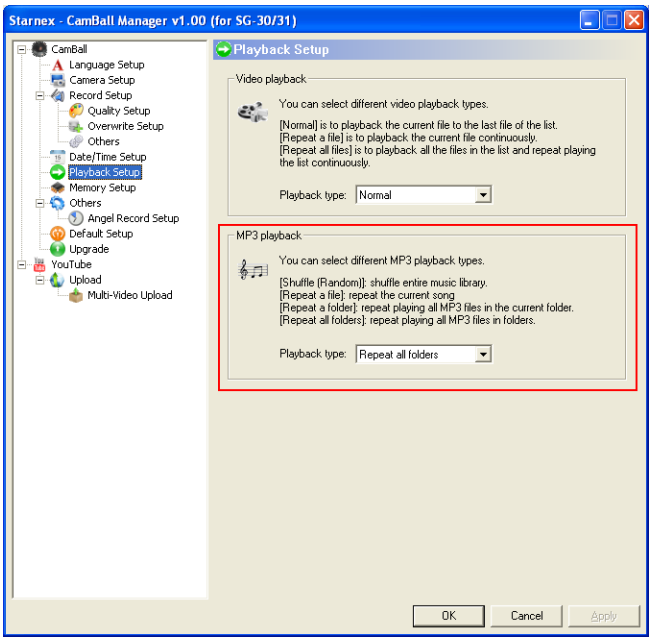
6.2.4.1. Video Playback

- Choose PLAYBACK SET>VIDEO PLAYBACK SET and select the setting.
- Setting options available are Normal, Repeat, and Repeat All.
- The default setting is Normal.



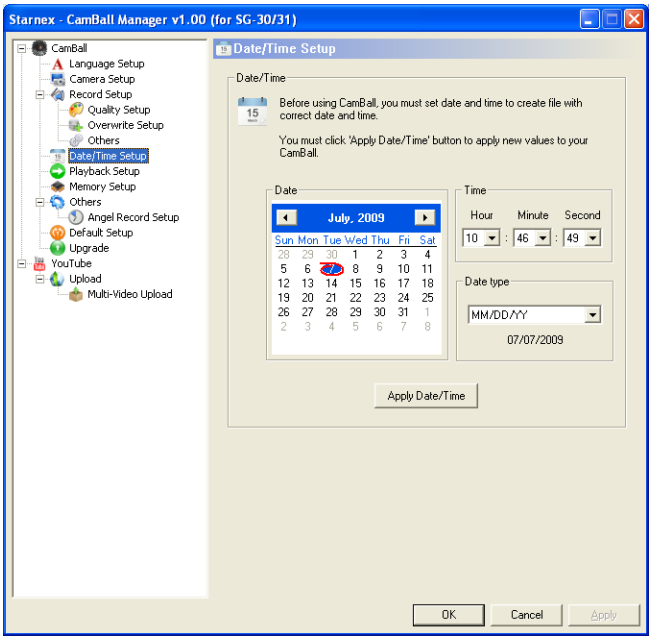
6.2.4.2. MP3 Playback

- Choose RECORD SET>PLAYBACK SET>MP3 PLAYBACK SET and select the setting.
- Setting options available are Shuffle, Repeat, Repeat Folder, and Repeat All.
- The default setting is Repeat All.



6.2.5 Date/Time

- Choose DATE/TIME SET and set the date, time, and display method.
- Click Apply Date/Time.



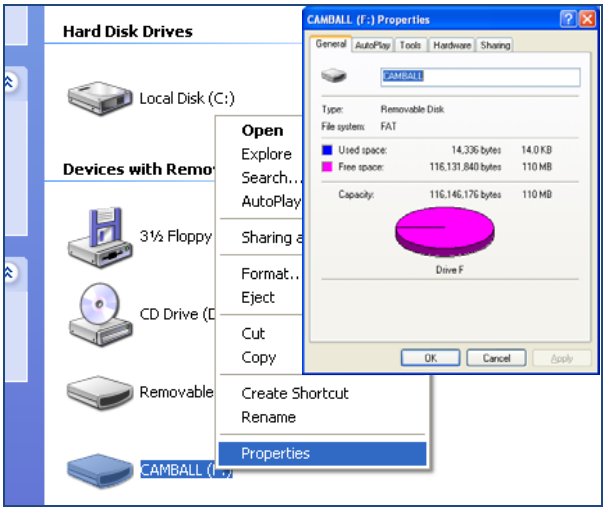
- For further information on setting the time/date, please refer to the *Initial Configurations* section of this manual.

6.2.6 Memory Setting

6.2.6.1. Capacity

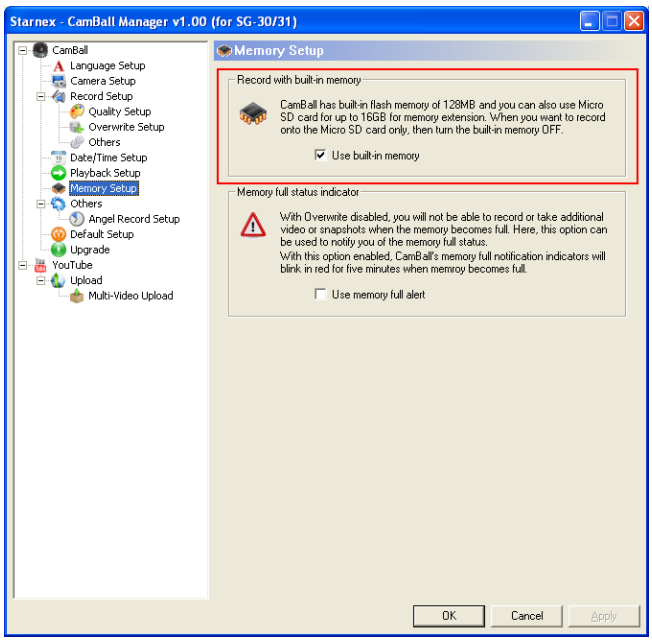
- Check from the PC, using the right mouse

button.



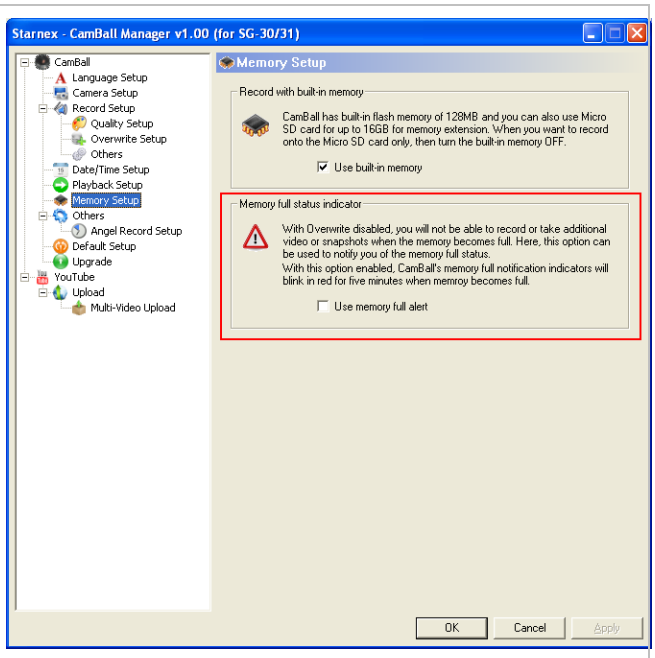
6.2.6.2. Built-in Memory

- Choose MEMORY SET>BUILT-IN MEMORY and check the box, and then click Apply to enable.
- The default setting is On (checked).


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Memory Setup
Record with built-in memory
CamBall has built-in flash memory of 128MB and you can also use Micro SD card for up to 16GB for memory extension. When you want to record onto the Micro SD card only, then turn the built-in memory OFF.
Use built-in memory
Memory full status indicator
With Overwrite disabled, you will not be able to record or take additional video or snapshots when the memory becomes full. Here, this option can be used to notify you of the memory full status.
With this option enabled, CamBall's memory full notification indicators will blink in red for five minutes when memroy becomes full.
Use memory full alert
OK
Cancel
Apply

6.2.6.3. Memory Full Notification

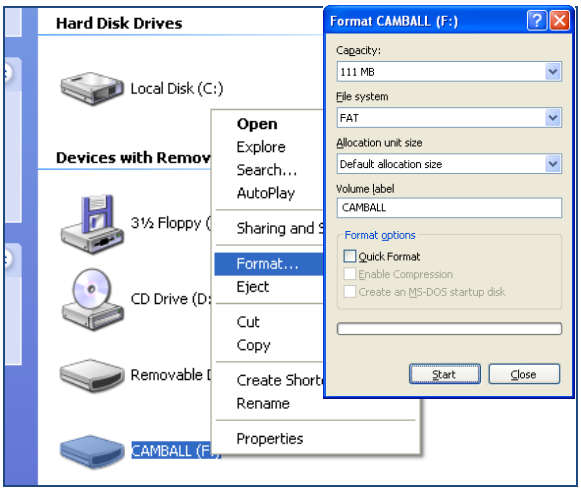
- Check the box under Memory Set>Memory Full Status Indicator and then click Apply to enable.
- The default setting is Off (unchecked).


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Memory Setup
Record with built-in memory
CamBall has built-in flash memory of 128MB and you can also use Micro SD card for up to 16GB for memory extension. When you want to record onto the Micro SD card only, then turn the built-in memory OFF.
Use built-in memory
Memory full status indicator
With Overwrite disabled, you will not be able to record or take additional video or snapshots when the memory becomes full. Here, this option can be used to notify you of the memory full status.
With this option enabled, CamBall's memory full notification indicators will blink in red for five minutes when memroy becomes full.
Use memory full alert
OK
Cancel
Apply

6.2.6.4. Memory Format

Note **Memory Format and Default Set**
Memory Format erases all recorded data from the selected memory and should not be confused with Default Set, which restores all settings to factory default settings.

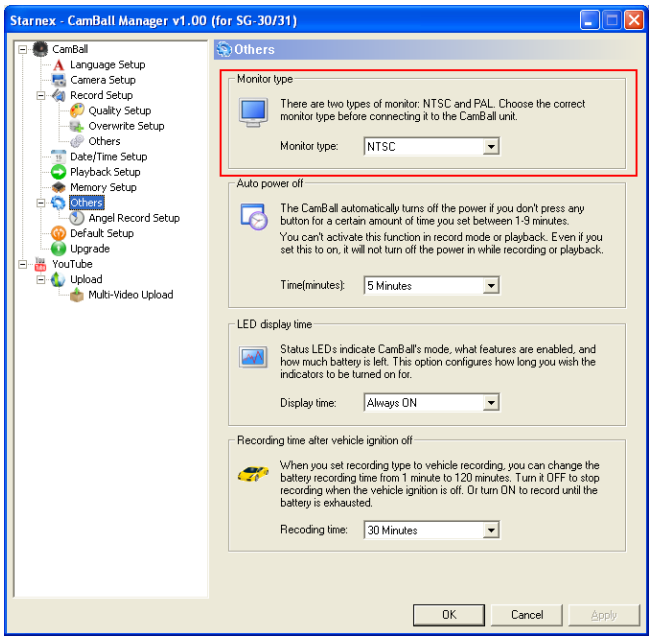
- From the PC, use the right mouse button to format.



6.2.7 Other

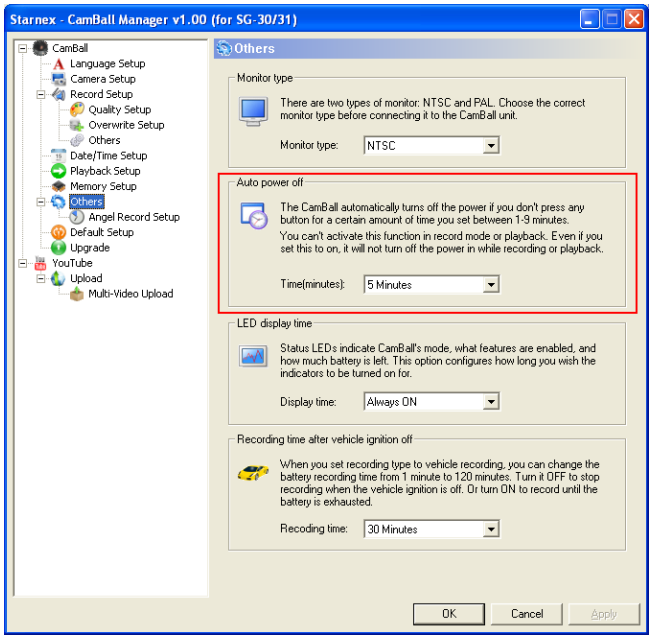
6.2.7.1. Monitor Type

- Choose OTHERS>EXTERNAL MONITOR TYPE and select the type, and then click Apply.
- The default setting is NTSC.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Monitor type
There are two types of monitor: NTSC and PAL. Choose the correct monitor type before connecting it to the CamBall unit.
Monitor type: NTSC
Auto power off
The CamBall automatically turns off the power if you don't press any button for a certain amount of time you set between 1-9 minutes.
You can't activate this function in record mode or playback. Even if you set this to on, it will not turn off the power in while recording or playback.
Time(minutes): 5 Minutes
LED display time
Status LEDs indicate CamBall's mode, what features are enabled, and how much battery is left. This option configures how long you wish the indicators to be turned on for.
Display time: Always ON
Recording time after vehicle ignition off
When you set recording type to vehicle recording, you can change the battery recording time from 1 minute to 120 minutes. Turn it OFF to stop recording when the vehicle ignition is off. Or turn ON to record until the battery is exhausted.
Recoding time: 30 Minutes
OK
Cancel
Apply

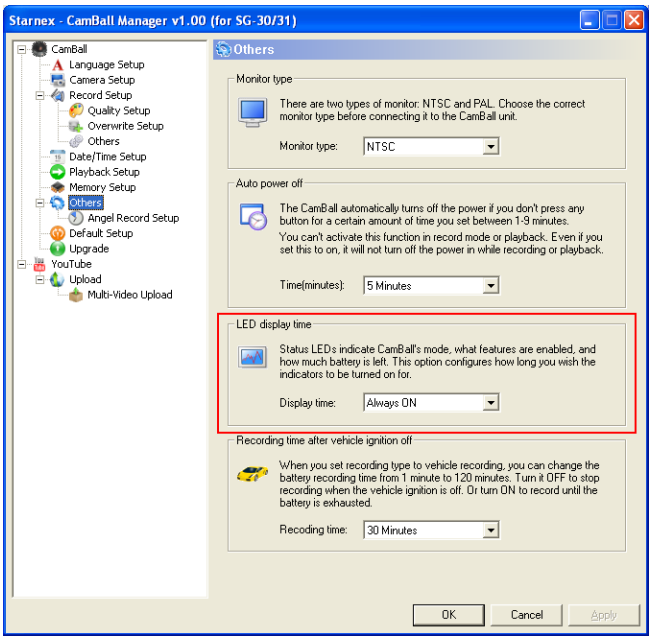
6.2.7.2. Auto Power Off

- Choose OTHER>AUTO POWER OFF TIME and make your selection, and then click Apply.
- The default setting is 5 minutes.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Monitor type
There are two types of monitor: NTSC and PAL. Choose the correct monitor type before connecting it to the CamBall unit.
Monitor type: NTSC
Auto power off
The CamBall automatically turns off the power if you don't press any button for a certain amount of time you set between 1-9 minutes.
You can't activate this function in record mode or playback. Even if you set this to on, it will not turn off the power in while recording or playback.
Time(minutes): 5 Minutes
LED display time
Status LEDs indicate CamBall's mode, what features are enabled, and how much battery is left. This option configures how long you wish the indicators to be turned on for.
Display time: Always ON
Recording time after vehicle ignition off
When you set recording type to vehicle recording, you can change the battery recording time from 1 minute to 120 minutes. Turn it OFF to stop recording when the vehicle ignition is off. Or turn ON to record until the battery is exhausted.
Recoding time: 30 Minutes
OK
Cancel
Apply

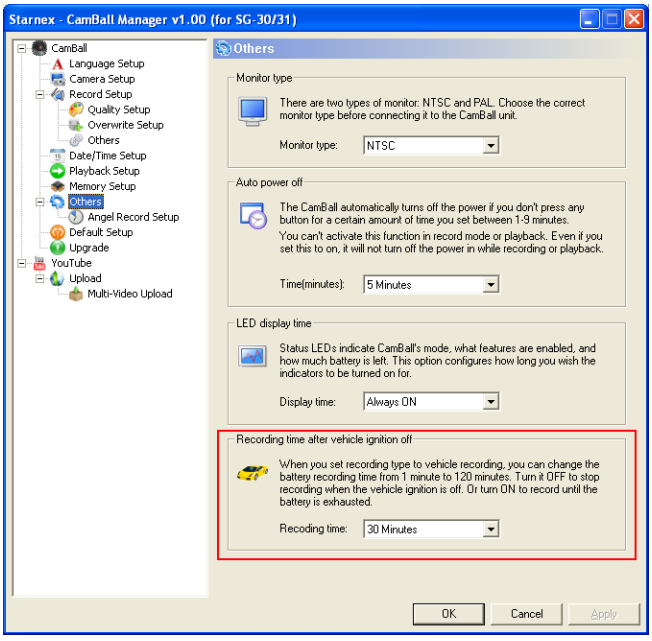
6.2.7.3. Status Indication Lamp-On Time

- Choose OTHERS>STATUS INDICATION LAMP-ON TIME and make your selection, and then click Apply.
- The default setting is Always.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Monitor type
There are two types of monitor: NTSC and PAL. Choose the correct monitor type before connecting it to the CamBall unit.
Monitor type: NTSC
Auto power off
The CamBall automatically turns off the power if you don't press any button for a certain amount of time you set between 1-9 minutes.
You can't activate this function in record mode or playback. Even if you set this to on, it will not turn off the power in while recording or playback.
Time(minutes): 5 Minutes
LED display time
Status LEDs indicate CamBall's mode, what features are enabled, and how much battery is left. This option configures how long you wish the indicators to be turned on for.
Display time: Always ON
Recording time after vehicle ignition off
When you set recording type to vehicle recording, you can change the battery recording time from 1 minute to 120 minutes. Turn it OFF to stop recording when the vehicle ignition is off. Or turn ON to record until the battery is exhausted.
Recoding time: 30 Minutes
OK
Cancel
Apply

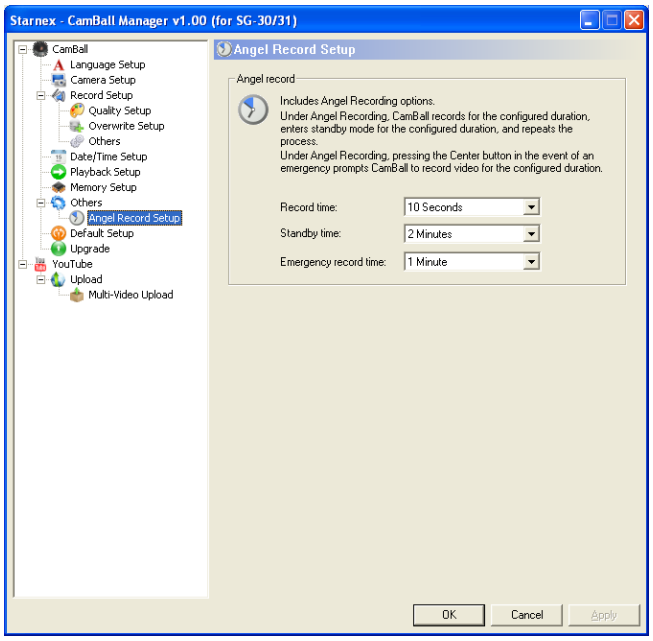
6.2.7.4. Recording Duration After Engine Shutdown

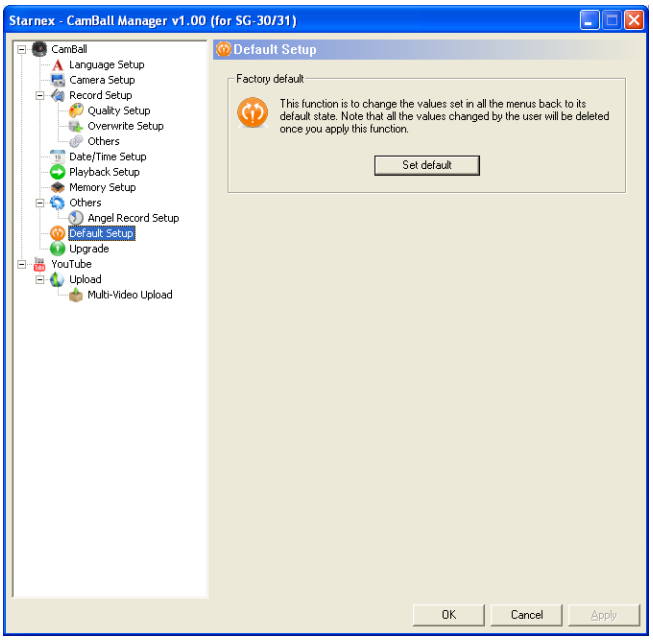
- Choose OTHERS>VEHICLE BATTERY TIME and make your selection, and then click Apply.
- The default setting is 30 minutes.


Starnex - CamBall Manager v1.00 (for SG-30/31)
CamBall
Language Setup
Camera Setup
Record Setup
Quality Setup
Overwrite Setup
Others
Date/Time Setup
Playback Setup
Memory Setup
Others
Angel Record Setup
Default Setup
Upgrade
YouTube
Upload
Multi-Video Upload
Others
Monitor type
There are two types of monitor: NTSC and PAL. Choose the correct monitor type before connecting it to the CamBall unit.
Monitor type: NTSC
Auto power off
The CamBall automatically turns off the power if you don't press any button for a certain amount of time you set between 1-9 minutes.
You can't activate this function in record mode or playback. Even if you set this to on, it will not turn off the power in while recording or playback.
Time(minutes): 5 Minutes
LED display time
Status LEDs indicate CamBall's mode, what features are enabled, and how much battery is left. This option configures how long you wish the indicators to be turned on for.
Display time: Always ON
Recording time after vehicle ignition off
When you set recording type to vehicle recording, you can change the battery recording time from 1 minute to 120 minutes. Turn it OFF to stop recording when the vehicle ignition is off. Or turn ON to record until the battery is exhausted.
Recoding time: 30 Minutes
OK
Cancel
Apply

6.2.7.5. Angel Recording

- Choose OTHERS>ANGEL RECORDING and make all relevant settings, and then click Apply.



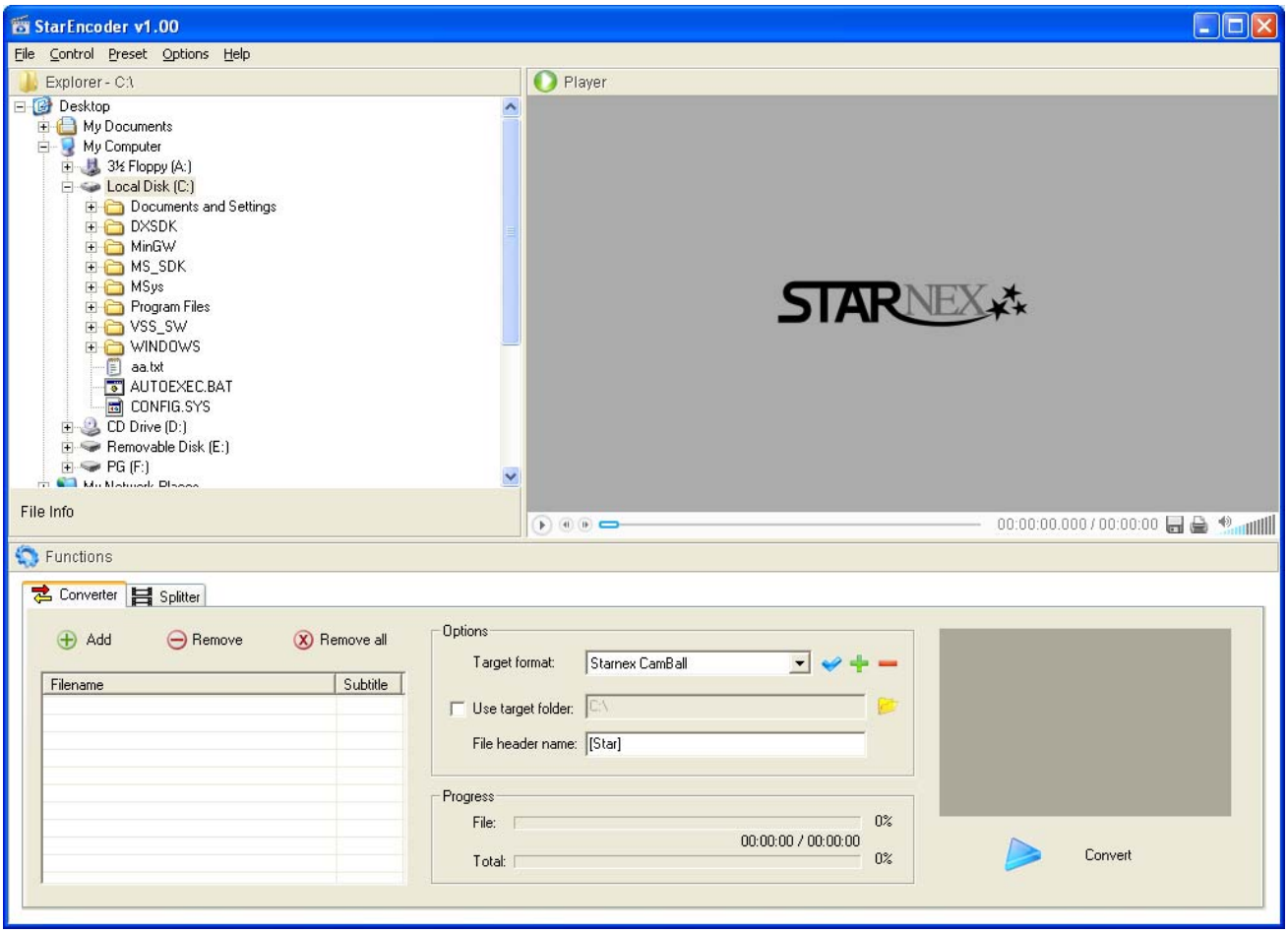


6.2.7.6. CamBall Reset

- Click Set Default under Default Set. A confirmation message will then prompt. Click Yes to reset all settings to default.

7. Video Playback using CamBall (PMP)

- CamBall allows you to view video files that were created with a different device.
- Copy the video file on to CamBall and play it back with CamBall as if it had been created by CamBall.
- In order for video files to be played in CamBall, however, the video codec must be MPEG-4 and the audio codec MP3.
- If the codecs do not match or if you wish to view video files along with subtitles, use Starnex's StarEncoder (comes in the enclosed CD-ROM) to make the conversions so that the files can be viewed on CamBall.



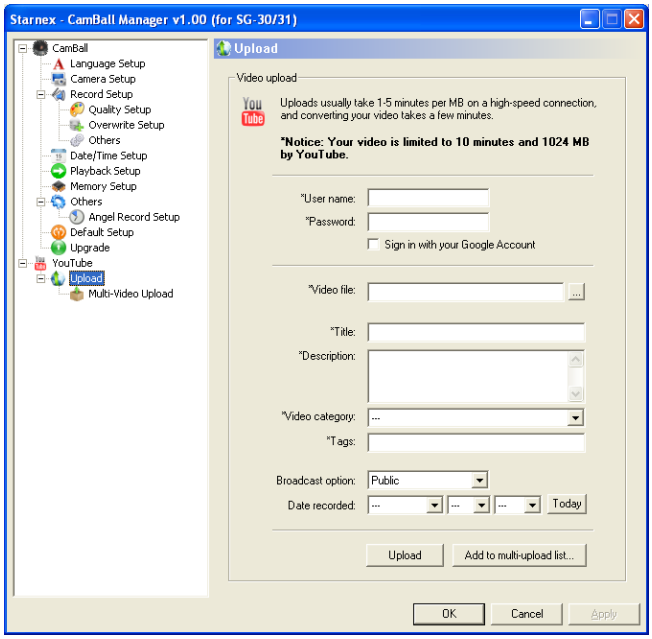
StarEncoder

8. YouTube

- YouTube is a global video hosting service by Google. Upload video files you generate using CamBall and share them with the world.

8.1 Upload

- From CamBall Manager, choose YouTube> Upload. This will prompt the following screen:



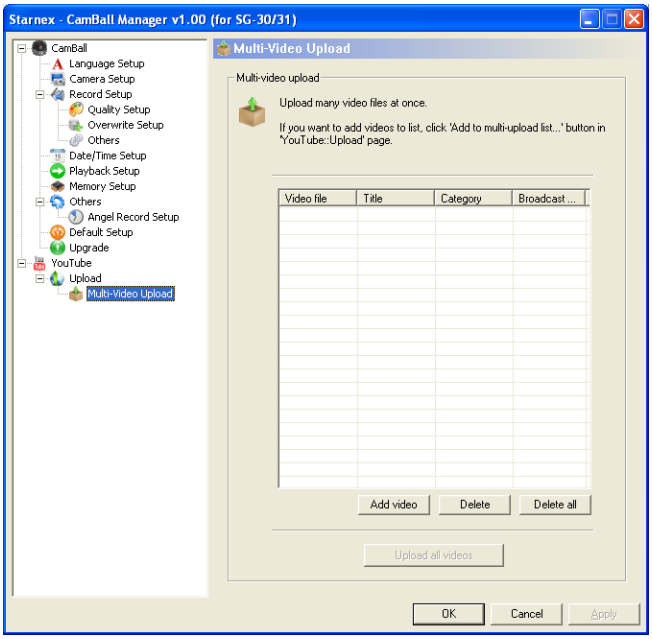
- Before filling out the upload form, make sure you already have an account with YouTube (http://www.youtube.com).
- Input Fields
  - ***User Name**: Enter your YouTube account ID.
  - ***Password**: Enter your YouTube password.
  - Sign in with your Google Account: Check if needed.
  - ***Video File**: The file you want to upload.
  - ***Title**: Enter a title for your video.
  - ***Description**: Enter a description for your video.
  - ***Video Category**: Select the applicable category.
  - ***Tags**: Enter tags for your video.
  - **Broadcast Option**: Select whether you want your video to be open to the public or not.
  - **Date Recorded**: Enter the recorded date.

> **Note** Fields marked with * are mandatory and will need to be filled in order for you to upload your video.

- After entering all the information, click Upload.
- Video uploads are limited by YouTube to 10 minutes in length and 1024MB in size.

8.2 Multiple Uploads

- After making all the necessary entries under YouTube>Upload, click Add to Multi-upload List. This will prompt the following screen:



- This menu is used to upload multiple video files.

9. Reference Information

9.1 Default Settings

- The following default settings can be restored using the Default Set option.

Menu	Submenu	Default Setting	Note
Camera Settings	Brightness	9	
	Contrast	15	
	Night Mode	On	
	Flip Vertical	Off	
Recording Settings	Video	On	
	Audio	On	
	Overwrite	On	
	Speed (FPS)	25	
	Quality	High	
	Size	320 x 240	Fixed.
	Zoom In	Off	
	Timestamp	Off	
	Motion Detect Sensitivity	Medium	
	Motion Detect Recording	10 seconds	
	Motion Detect Audio	On Detection	
Playback Settings	Video Playback	Normal	
	MP3 Playback	Repeat All	
Memory Settings	Built-in Memory	On	
	Memory Full Status Indication	Off	
Misc. Settings	Auto Power Off	5 minutes	
	Status Indication Lamp On Time	Always	
	Vehicle Battery Time	60 minutes	
Angel Recording Settings	Record Time	10 seconds	
	Standby Time	2 minutes	
	Emergency Record	1 minute	

- Once configured by the user, the following three settings will not be affected by the Default Set option. If you need to adjust these settings, please do so directly from the configuration menu.
  - Language Setting
  - Date/Time Setting
  - Monitor Type Setting

9.2 Product Specifications

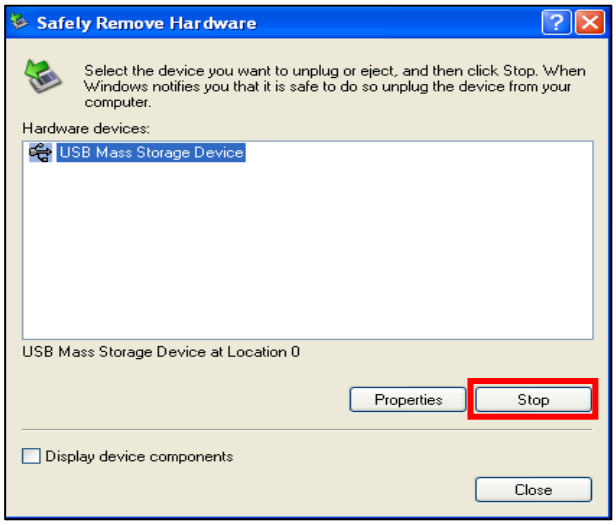
Category		Specification	Note
Camera		CMOS (640x480 Resolution)	■Luminance: less than 1 lux ■Angle: 60°
Memory	**Built-In**	128MB Flash Memory	
	External	Micro SD Card	Max. 16GB
Photo Resolution		640 x 480 pixels	
Recording Resolution		320x240 pixels	
Recording Method		Continuous/Motion detection	
Video Compression		MPEG4+Starnex's Algorithm	
Frame Rate		1~25fps @ 320x240 pixels	
Audio Input		Built-in Microphone	
Video/Audio Output		TV output port (1Vpp)	NTSC / PAL
Storage Capacity		■ Continuous Recording: 72hrs Max. ■ Motion Detection: 720hrs Max.	16GB @25fps
Battery Time		■ Continuous Recording (Audio+Video): 100 minutes Max. (at 25°C) ■ Motion Detection (Audio+Video): 10hrs Max.	Recording time may vary depending on battery and temperature conditions.
Power		■ Li-polymer battery (3.7V DC/340mA) ■USB Port ■USB Adapter (5V DC/1A)	
Dimensions		37mm (Diameter)	
Weight		28g (Including battery)	
Operating Temp.		-10°C ~ +60°C	0°C ~ +45°C (Charging)
Operating Humidity		Below 80%	

10. Tips on Use

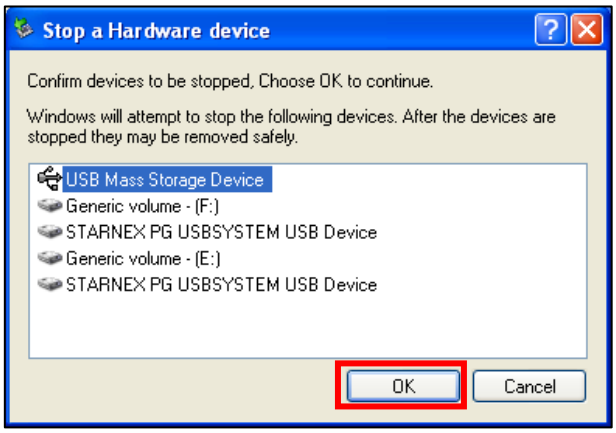
10.1 Safe Hardware Removal

- Whenever you disconnect CamBall from the PC, use the Safely Remove Hardware option. Otherwise, you might experience critical damage of your PC and/or the product.
- Safe Hardware Removal:
  1. Click on the Safely Remove Hardware icon, located in System Tray.

  2. Following dialog will prompt. Select the device you wish to disconnect and click Stop.


Safely Remove Hardware
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.
Hardware devices:
USB Mass Storage Device
USB Mass Storage Device at Location 0
Properties
Stop
Display device components
Close

  3. Select the device you wish to disconnect once more and then click OK.


Stop a Hardware device
Confirm devices to be stopped, Choose OK to continue.
Windows will attempt to stop the following devices. After the devices are stopped they may be removed safely.
USB Mass Storage Device
Generic volume - (F:)
STARNEX PG USBSYSTEM USB Device
Generic volume - (E:)
STARNEX PG USBSYSTEM USB Device
OK
Cancel

  4. When you see the following message, disconnect CamBall from your PC.

- CamBall Manager features a direct Safely Remove Hardware button for greater user convenience.

10.2 Using CamBall in a Vehicle

- When using CamBall in your vehicle, connect power to your CamBall after starting the engine to protect against overloading.

Warranty

This product is warranted against issues resulting from manufacturing or parts defect for twelve months (six months for the battery) from date of purchase.

- Upon purchase of the product, fill out the following warranty information right away.

- If you encounter any problem with product, contact the retailer or distributor right away.

- Product repair, exchange, and refund will be provided to you in accordance with their respective policies.

Product		**Model**	
Serial No.			
Sales Rep			
Purchase Date		**Retailer**	
Warranty Period	For 12 months from date of purchase.		
Name of Purchaser		**Address**	

◆ Warranty Policy

Any malfunction during the warranty period and under normal use will be repaired at free of charge. However, following are not covered by the warranty:

1. Malfunctions caused by user negligence;
2. Malfunctions and damages caused by a natural disaster;
3. Malfunctions caused as the result of improper voltage and/or frequency use;
4. Malfunctions caused by modification by a third party; and
5. Product damages and malfunctions resulting after expiration of the warranty period. However, out-of-warranty repair services are available at the owner's expense.

STARNEX The Future of Wireless Surveillance

MIC STA-SG-20

E11